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VERSION I

Base Realignment and Closure (BRAC) Cleanup Plan

**Fort Devens
Fort Devens, Massachusetts**

Prepared for:

**U.S. ARMY ENVIRONMENTAL CENTER
ABERDEEN PROVING GROUND, MARYLAND 21010**

Prepared by:

**THE EARTH TECHNOLOGY CORPORATION
1420 KING STREET, SUITE 600
ALEXANDRIA, VIRGINIA 22314**

~~Requests for this document must be referred to:
Commander, Fort Devens
Fort Devens, Massachusetts 01433~~

7 APRIL 1994

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LIST OF ACRONYMS

ACM	Asbestos-Containing Material
AHERA	Asbestos Hazard Emergency Response Act
AREE	Area Requiring Environmental Evaluation
AST	Aboveground Storage Tank
BCP	BRAC Cleanup Plan
BCT	BRAC Cleanup Team
BEC	BRAC Environmental Coordinator
BRAC	Base Realignment and Closure
CAA	Clean Air Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERFA	Community Environmental Response Facilitation Act
CFR	Code of Federal Regulation
CRP	Community Relations Plan
CWA	Clean Water Act
DD	Decision Documents
DERA	Defense Environmental Restoration Account
DOA	Department of the Army
DoD	Department of Defense
DOT	Department of Transportation
DRMO	Defense Reutilization and Marketing Office
EA	Environmental Assessment
EMO	Environmental Management Office
ENPA	Enhanced Preliminary Assessment
EIS	Environmental Impact Statement
FFA	Federal Facilities Agreement
FONSI	Finding of No Significant Impact
FORSCOM	Forces Command
FS	Feasibility Study
FY	Fiscal Year
IRA	Interim Remedial Actions
IRDMIS	Installation Restoration Data Management Information System
IRP	Installation Restoration Program
JBOS	Joint Boards of Selectmen
LTM	Long-Term Monitoring
MAAF	Moore Army Airfield
MGLB	Massachusetts Government Land Bank
MADEP	Massachusetts Department of Environmental Protection
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act
NFA	No Further Action
NFRAP	No Further Response Action Planned
NPDES	National Pollution Discharge Elimination System

LIST OF ACRONYMS

Continued

NRC	Nuclear Regulatory Commission
NRHP	National Register of Historic Places
OSHA	Occupational Safety and Health Administration
OU	Operable Unit
PCB	Polychlorinated Biphenyl
POL	Petroleum, Oil, and Lubricant
PP	Proposed Plan
PX	Post Exchange
RA	Remedial Action
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RFI	RCRA Facility Investigation
RI	Remedial Investigation
RI/FS	Remedial Investigation/ Feasibility Study
RMIS	Restoration Management Information System
ROD	Record of Decision
ROTC	Reserve Officer Training Corps
RPM	Remedial Project Manager
SARA	Superfund Amendments and Reauthorization Act
SPCC	Spill Prevention Control and Countermeasures
SWMU	Solid Waste Management Unit
TCE	Trichloroethene
TERC	Total Environmental Restoration Contract
TPH	Total Petroleum Hydrocarbons
USACE	U.S. Army Corps of Engineers
USAEC	U.S. Army Environmental Center
USAEHA	U.S. Army Environmental Hygiene Agency
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
UST	Underground Storage Tank
UXO	Unexploded Ordnance
WWTP	Wastewater Treatment Plant

EXECUTIVE SUMMARY

Introduction

This Base Realignment and Closure (BRAC) Cleanup Plan (BCP) contains the status, management and response strategy, and action items related to Fort Devens ongoing environmental restoration and associated compliance programs. These programs support full restoration of the installation property, which is necessary to meet the requirements for property disposal and reuse activities associated with the closure of the installation. The scope of the BCP considers the following regulatory mechanisms: the BRAC Act; National Environmental Policy Act (NEPA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Community Environmental Response Facilitation Act (CERFA); Resource Conservation and Recovery Act (RCRA); and other applicable laws.

The BCP is a planning document and was developed by the BRAC Cleanup Team (BCT) consisting of the U.S. Army, U.S. Environmental Protection Agency (USEPA), and state representatives. The information and assumptions presented may not necessarily have complete approval from the U.S. Army and/or federal and state regulatory agencies. The BCP is a dynamic document that will be updated regularly to reflect the current status and strategies of remedial actions. This document is the first in a series of updates/modifications and represents conditions and strategies as of March 1994.

Status of Disposal, Reuse, and Interim Lease Process

Fort Devens was identified for closure on the Defense Secretary's BRAC 91 list. Only the North Post and Main Post were identified for closure: the South Post will remain as a U.S. Army reserve enclave. Fort Devens will officially close in July 1997. The disposal of Fort Devens involves three interrelated activities: the NEPA documentation process, development of a disposal plan, and development of a community reuse plan. The first two items are the responsibility of the U.S. Army. The third is the responsibility of the Fort Devens Reuse Committee, an agency created for the purpose of developing a plan for reuse and redevelopment of the installation. These three activities are currently being completed at Fort Devens. The Disposal and Reuse Environmental Impact statement is currently being developed and the draft report is anticipated to be released in April 1994. To date, property disposal has not occurred at Fort Devens. Future property disposals at Fort Devens are anticipated to include Federal transfer and negotiated sale. The Fort Devens Reuse Committee has developed a reuse plan.

Status of Environmental Restoration Program

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Fifty-three areas requiring environmental evaluation (AREEs) have been identified by the Enhanced Preliminary Assessment (ENPA). Forty-four AREEs are currently being investigated

What about 61-70?

under the Installation Restoration Program (IRP). Restoration-related compliance activities at Fort Devens currently include excavation of contaminated soil, leaking underground storage tank removals, and soil excavation. Closure related compliance activities include closure of landfills.

Key Restoration and Transferability Strategies and Schedules

Fort Devens has shifted its focus from the activities of an active installation to compliance and restoration for disposal and reuse of the property. The BCP strategies are currently being implemented to focus restoration activities towards final transfer of installation property. Strategies for determining the most effective response mechanisms for contaminant sources and contaminated areas during the early stages of the restoration process at the installation have been performed on a case-by-case basis by the Project Team.

Summary of Current BCP Action Items

Table ES-1 provides a listing of recommendations and issues associated with environmental restoration, compliance, and technical/management action items that require further evaluation and implementation by the BCT/Project Team. Bottom up review program numbers specified in the Department of Defense (DoD) BCP Guidebook which relate to each action item are identified in the table.

TABLE ES-1. BCT/PROJECT TEAM ACTION ITEMS

Action Item	Status		
	Program Review Item	In Progress	To Be Performed
COMPLIANCE ACTIVITIES			
Hazardous Materials/Waste Management	7		×
- Closure of hazardous waste storage facility			
- Closure of landfills	7		×
- close accumulation areas on BRAC property	7		×
Storage Tanks	7	X ← (X)	← (X)
- Determine what USTs and ASTs will be removed			
- Develop management procedures	7	X ← (X)	← (X)
Asbestos	7	X ← (X)	← (X)
- Additional testing of possible ACM			
Radon	7	×	
- Mitigation of radon-contaminated facilities			
PCBs	16	×	
- Replace all PCB-contaminated transformers			
Lead-based Paint			
- Building inspection	7	X ← (X)	← (X)
- Limited sampling	7		×
CERCLA 120(H)(3) CONSIDERATIONS			
Suitability for Property Transfer			
- Update environmental condition maps	9	×	
COMMUNITY RELATIONS			
Update community relations plan	8	×	
MANAGEMENT AND ADMINISTRATIVE SUPPORT ACTIVITIES			
Review BCP periodically	19		×
Establish background concentrations of elements	23	×	
Refine GIS program	21		×
Determine if groundwater zones needed and develop, if so	15	×	
Finalize general soils management policy	15	×	
Determine remediation design review process	15	×	
Establish cleanup and human health standards	24	×	
Finalize central soil treatment facility program	15	×	
Determine who has authority to sign RODs	15	×	

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CHAPTER 1

► INTRODUCTION AND SUMMARY ◀

The purpose of this BCP is to summarize the current status of the Fort Devens environmental restoration and associated environmental compliance programs and to present a comprehensive strategy for implementing response actions necessary to protect human health and the environment. This strategy integrates activities being performed under both the Installation Restoration Program (IRP) and the associated environmental compliance programs to support full restoration of the installation. The BCP is a dynamic document that will be updated regularly to incorporate newly-obtained information and will reflect the completion or change in status of any remedial actions (RAs). This iteration of the BCP was prepared with information available as of March 1994.

This BCP is a planning document. It was necessary to make certain assumptions and interpretations to develop the schedule and cost estimates. As additional data become available, implementation programs and cost estimates could be altered. Such changes would then be reflected in future updates to the BCP. Major modifications are not expected because of the advanced stages of the restoration process at Fort Devens.

Chapter 1 describes the objectives of the environmental restoration program, explains the purpose of the BCP, introduces the Project Team formed to review the program, and provides a brief history of the installation.

Chapter 2 summarizes the current status of the Fort Devens property disposal planning process and describes the relationship of the disposal process with other environmental programs.

Chapter 3 summarizes the current status and past history of the Fort Devens IRP and associated environmental compliance programs, community relations activities that have occurred to date, and the environmental condition of installation property.

Chapter 4 describes the installation-wide strategy for environmental restoration, including the strategies for dealing with each operable unit (OU) on the installation. This chapter also summarizes plans for managing underground storage tanks (USTs), asbestos removal under the asbestos management program, and plans for managing responses under other compliance programs.

Chapter 5 provides master schedules of planned and anticipated activities to be performed throughout the duration of the environmental restoration program, including associated compliance activities.

Chapter 6 describes specific technical and/or administrative issues to be resolved and presents a strategy for resolving these issues.

Chapter 7 provides a list of primary references utilized in the preparation of the BCP.

In addition to the main text, the following appendices are included in this document:

- ▶ Appendix A - summary tables of past, current, and projected costs for the environmental restoration program
- ▶ Appendix B - technical documents and data loading summary, listings of previous environmental restoration program deliverables by program and by site
- ▶ Appendix C - summaries of Decision Documents (DD) for which an RA was selected
- ▶ Appendix D - summaries of each DD for each site or operable unit for which a no further response action planned (NFRAP) decision has been made
- ▶ Appendix E - working conceptual models for sites, zones, or OUs
- ▶ Appendix F - other ancillary materials relevant to the BCP.

1.1 Environmental Response Objectives

The Environmental Management Office is responsible for the environmental programs at Fort Devens. The objectives of the installation closure environmental restoration program at Fort Devens are as follows:

- ▶ Protect human health and the environment
- ▶ Strive to meet reuse goals established by the U.S. Army and the community, consistent with legislation relevant to Fort Devens closure
- ▶ Comply with existing statutes and regulations
- ▶ Conduct all restoration activities in a manner consistent with Section 120 of CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA)
- ▶ Conduct CERFA investigations
- ▶ Continue efforts to identify all potentially-contaminated areas
- ▶ Establish priorities for environmental restoration and restoration-related compliance activities so that property disposal and reuse goals can be met
- ▶ Initiate selected removal actions to control, eliminate, or reduce risks to manageable levels

- ▶ Identify and map the environmental condition of installation property with the intent of identifying areas suitable for transfer by deed
- ▶ Complete the environmental restoration process as soon as practicable for each OU, in an order of priority which takes into account both environmental concerns and redevelopment plans; consider future land use when characterizing risks associated with releases of hazardous substances, pollutants, contaminants, or hazardous wastes
- ▶ Develop, screen, and select RAs that reduce risks in a manner consistent with statutory requirements
- ▶ Commence RAs for (1) environmental and (2) property disposal and reuse priority areas as soon as practicable
- ▶ Advise the real estate arm of the U.S. Army Corps of Engineers (USACE) of property that is deemed suitable for transfer and properties that are not suitable for transfer because they are either not properly evaluated or pose an unacceptable human health or environmental risk
- ▶ Conduct long-term RAs for groundwater and any necessary 5-year reviews for wastes left on site
- ▶ Establish Interim and Long-Term Monitoring (LTM) plans for RAs as appropriate.

1.2 BCP Purpose, Updates, and Distribution

This BCP presents, in summary fashion, the status of Fort Devens's environmental restoration and compliance programs and the comprehensive strategy for environmental restoration and restoration-related compliance activities. It lays out the response action approach at the installation in support of installation closure. In addition, it defines the status of efforts to resolve technical issues so that continued progress and implementation of scheduled activities can occur. The Fort Devens BCP Strategy and Schedule is designed to streamline and expedite the necessary response actions associated with Fort Devens to facilitate the earliest possible disposal and reuse activities.

This BCP will be updated semi-annually, or more frequently if determined to be necessary. Updates of the BCP will be distributed to each member of the Fort Devens Project Team, as well as to additional individuals and addresses identified in Table 1-1. In addition, the BRAC Environmental Coordinator (BEC) for Fort Devens will prepare monthly updated attachments to the BCP and distribute them to the other BRAC Cleanup Team (BCT) members for comment.

1.3 BCT/Project Team

The Fort Devens Project Team has been established and is led by the BEC, Mr. James Chambers. The BCT also includes representatives of the U.S. Environmental Protection Agency (USEPA), Region I and the Massachusetts Department of Environmental Protection (MADEP). Project Team meetings are the means of conducting periodic program reviews and reaching consensus on decisions with federal and state regulators. Project team members include representatives from the following organizations/agencies: Fort Devens' Environmental Management Office (EMO); U.S. Army Forces Command (FORSCOM); U.S. Army Environmental Center (USAEC); USACE, New England Division; Massachusetts Governmental Land Bank; and Joint Boards of Selectmen (JBOS) for the towns of Ayer, Harvard, Shirley and Lancaster. Table 1-1 lists the team members and specifies their roles and responsibilities.

1.4 Installation Description and History

Fort Devens is located in the towns of Ayer and Shirley in Middlesex County. The facility is located approximately 35 miles northwest of Boston, Massachusetts. It lies within the Ayer and Shirley map quadrangles (7½-minute series). The installation occupies approximately 3,680 acres and is divided into the North Post and the Main Post (Figure 1-1). Figure 1-2 shows surrounding land use.

The Main Post provided all of the on-post housing, including over 1,700 family units and 9,800 bachelor units (barracks and unaccompanied officers' quarters). Other facilities on the Main Post included community services (such as the shoppette, cafeteria, post exchange, bowling alley, golf course, and hospital), administrative buildings, classroom and training facilities, maintenance facilities, and ammunition storage. The North Post is located directly north of the Main Post. The principle activity on the North Post was the Douglas E. Moore Army Airfield (MAAF). The airfield is used for military purposes and consists of two fixed wing runways and two rotary wing runways. The North Post also contains the Wastewater Treatment Plant (WWTP) for Fort Devens, including the associated Rapid Infiltration Basins and Sludge Drying Beds. The remainder of the North Post was designated as troop training areas.

Camp Devens was created as a temporary cantonment in 1917 for training soldiers from the New England area. It was named after Charles Devens, a Massachusetts Brevet Major General in the Union Army during the Civil War who later became Attorney General under President Rutherford Hayes. Camp Devens served as a reception center for selectees, as a training facility, and at the end of World War I, as a demobilization center (Marcoa Publishing Inc., 1990). Peak military strength during World War I was 38,000 troops. After World War II, Camp Devens became an installation of the U.S. Army Field Forces, CONARC in 1962, and the FORSCOM in 1973 (Biang et al., 1992).

In 1921, Camp Devens was placed in caretaker status. During summers from 1922 to 1931, it was used as a training camp for National Guard troops, Reserve units, Reserve Officer Training Corps (ROTC) cadets, and the Civilian Military Training Corps (CMTC). In 1929, Dr. Robert Goddard used Fort Devens to test his early liquid-fuel rockets, and there is a monument to him on Sheridan Road near Jackson Gate (Fort Devens Dispatch, 1992).

TABLE 1-1. BCP DISTRIBUTION LIST

Name	Title	Address
Mr. James C. Chambers	BEC	HQ, Fort Devens BRAC Environmental Office Building P-12, Room 222 Fort Devens, MA 01433-5010
Mr. James P. Byrne	U.S. Environmental Protection Agency Representative	U.S. Environmental Protection Agency Region 1-HAN CAN 1 JFK Federal Building Boston, MA 02203-2211
Ms. D. Lynee Welsh	Massachusetts Department of Environmental Protection Representative	Massachusetts Department of Environmental Protection, Central Region 75 Grove Street Worcester, MA 01605
Mr. Charles George	Contracting Officer's Representative <i>USAEC Project Officer.</i>	U.S. Army Environmental Center Attn: ENAEC-BC-A Contracting Officer's Representative Building E-4480, Edgewood Area Aberdeen Proving Ground, MD 21010-5401
Mr. Darrell Deleppo	U.S. Army Corps of Engineers Representative	U.S. Army Corps of Engineers, New England Division 424 Trapelo Road Waltham, MA 02254
Mr. Mark Applebee	U.S. Army Corps of Engineers Representative	U.S. Army Corps of Engineers, New England Division 424 Trapelo Road Waltham, MA 02254
Mr. Thomas Poole	Directorate of Public Works	HQ, Fort Devens Building T-1620 Fort Devens, MA 01433-5100
Mr. John R. Rasumuson	Base Realignment and Closure Office Representative	HQ, Fort Devens Base Realignment and Closure Office Building P-1 Buena Vista Street Fort Devens, MA 01433-5010
Mr. Eric Knapp	Massachusetts Land Bank Representative	Massachusetts Land Bank Fort Devens Re-Use Center Building P-12, Buena Vista Street Fort Devens, MA 01433
Mr. Don Ouellette	Department of Public Works Representative	Department of Public Works Town Hall, Brook Street Ayer, MA 01432
Mr. Ira Grossman	Environmental Health Division Nashoba Associated Boards of Health Representative	Environmental Health Division Nashoba Associated Boards of Health 30 Central Avenue Ayer, MA 01432

TABLE 1-1. BCP DISTRIBUTION LIST**Continued**

Name	Title	Address
Ms. Steven Mierzykowski	U.S. Fish and Wildlife Service Representative	U.S. Fish and Wildlife Service 1033 South Main Street Old Town, ME 04468
Ms. Trudy Coxé	Secretary of Executive Office of Environmental Affairs Representative	Secretary of Executive Office of Environmental Affairs Commonwealth of Massachusetts 100 Cambridge Street Boston, MA 02202
Ms. Laila Michaud	Assistant Director	Massachusetts Regional Planning Commissions R1427 Water Street Fitchburg, MA 01420
Ms. Carolyn Sellars	Nashua River Watershed Association Representative	Nashua River Watershed Association 609 Massachusetts Avenue Lunenburg, MA 01462
Mr. Lee Fransworth	Conservation Commission Representative	Conservation Commission 35 Pine Hill Road Lancaster, MA 01523
Mr. John Petrin	Town Administrator	Town Administrator Town Hall, 13 Ayer Road Harvard, MA 01451
Mr. Chris Gaffney	Town Administrator	Town Administrator Town Hall, 3 Lancaster Road Shirley, MA 01464

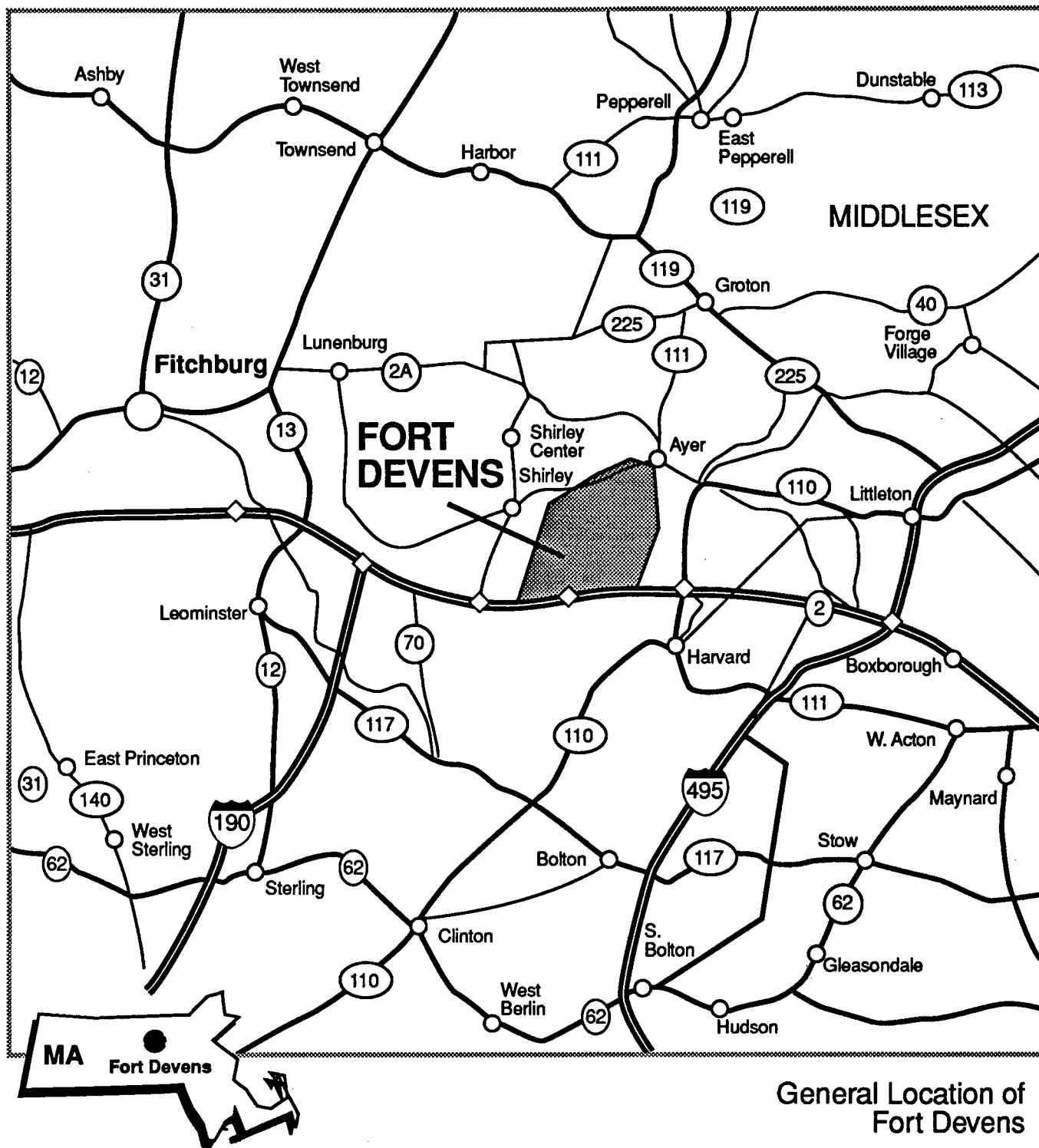
TABLE 1-2. CURRENT BCT/PROJECT TEAM MEMBERS

Name	Title	Phone	Role/Responsibility
James Chambers	BRAC Environmental Coordinator/ Remedial Project Manager	(508)796-3114	Component Project Manager (Lead Agency)
James Byrne	BRAC Cleanup Team Representative	(617)573-5799 (617)573-9662 (FAX)	EPA Project Manager
Lynne Welsh	BRAC Cleanup Team Representative	(508)792-7653 (508)792-7621 (FAX)	MADEP Project Manager
OTHER KEY PARTICIPANTS			
H. Carter Hunt, Jr.	Fort Devens Deputy Commander	(508)796-2601	Assist Commander for Fort Devens
Ron Ostrowski	<i>BTC</i> Environmental Management Officer	(508)796-3665 (508)796-3699 (FAX)	Manages the Environmental Management Office
Tom Strunk	Environmental Coordinator	(508)796-6171 (508)796-3699 (FAX)	Technical Support
John Harms	Legal Counsel	(508)796-3586 (508)796-3047 (FAX)	Fort Devens Environmental Legal Counsel
John Rasmuson	BRAC Officer	(508)796-3752 (508)796-3572 (FAX)	Fort Devens BRAC Office Manager
Phil Morris	Fort Devens Public Affairs Officer	(508)796-3307 (508)796-2159 (FAX)	Fort Devens Public Affairs Support
George Gricius	FORSCOM Environmental Office	(404)669-7796 (404)669-7327 (FAX)	Program Management
Victor Bonella	FORSCOM BRAC Office	(404)752-4701	Program Management
Peter Golonka	CDM, Project Manager	(617)742-2659 (617)227-3851 (FAX)	Provide technical support for the Fort Devens project
Molly Elder	Project Coordinator	(508)792-7653 (508)792-7621 (FAX)	Project and contract management.
John Regan	Project Engineer	(508)792-7653 (508)792-7621 (FAX)	Technical Support
Chris Knuth	Project Geologist	(508)792-7653 (508)792-7621 (FAX)	Technical Support
Dave Salvatore	UST and Spills Coordinator	(508)792-7653 (508)792-7621 (FAX)	Technical Support
Mary Doyle	Metcalf & Eddy, Inc.	N/A	Cleanup Consultant
Beth Flynn	Applied Geographics, Inc.	N/A	GIS Contractor
CPT Gary Pease	Environmental Engineer/ Project Officer	(410)671-1606 (410)671-1635 (FAX)	Project and Contract Management

*Bob
Mantel*
→

TABLE 1-2. CURRENT BCT/PROJECT TEAM MEMBERS**Continued**

Name	Title	Phone	Role/Responsibility
Charles George	Environmental Engineer/ Project Officer	(410)671-1625 (410)671-1635 (FAX)	Project and Contract Management
William Nelson	Project Geologist	(410)671-1518 (410)671-1548 (FAX)	Geology Oversight
William Houser	Project Health and Safety Coordinator	(410)671-1591 (410)671-1680 (FAX)	Health and Safety Oversight
Ivan Sosa	Project Chemist	(410)671-1577 (410)671-1680 (FAX)	Chemistry Oversight
Elizabeth Sergeant	Public Affairs Officer	(410)671-1270 (410)671-3132 (FAX)	PAO Support and Oversight
Paul Exner	ABB-ES, Project Manager	(617)245-6606 (617)245-5060 (FAX)	Manages the Groups 1A (RI/FS); Groups 3, 5, & 6 (SI/RI/FS); and Groups 2 & 7 (SI/RI/FS)
Bob King	Ecology & Environment, Inc., Project Manager	(703)522-6065 (703)558-7950 (FAX)	Manages the Group 1B (RI/FS)
Mark Heuberber	Arthur D. Little, Inc., Project Manager	(617)498-6131 (617)498-7021 (FAX)	Manages the Main Post SI
Richard Waterman	Arthur D. Little, Inc., Project Manager	(617)498-5562 (617)498-7021 (FAX)	Manages the BRAC Environmental Evaluation
Don Koch	ETA, Inc., Project Manager	(410)461-9920 (410)750-8565 (FAX)	Manages the Groundwater Modelling Efforts
Darrell Deleppo	Project Manager	(617)647-8712 (617)647-8891 (FAX)	Project Management
William (Bud) Taylor	Project Manager	(617)647-8085 (617)647-8891 (FAX)	Project Management (Environmental)
Mark Applebee	Project Manager	(617)647-8227 (617)647-8614 (FAX)	Project Management (Remedial Action Design)
Eric Knapp	Massachusetts Government Land Bank Representative	(617)727-8257 (617)720-2731 (FAX)	Senior Project Manager
David Knisely	Legal Counsel	(617)367-3990 (617)367-5002 (FAX)	Project Management (Environmental)

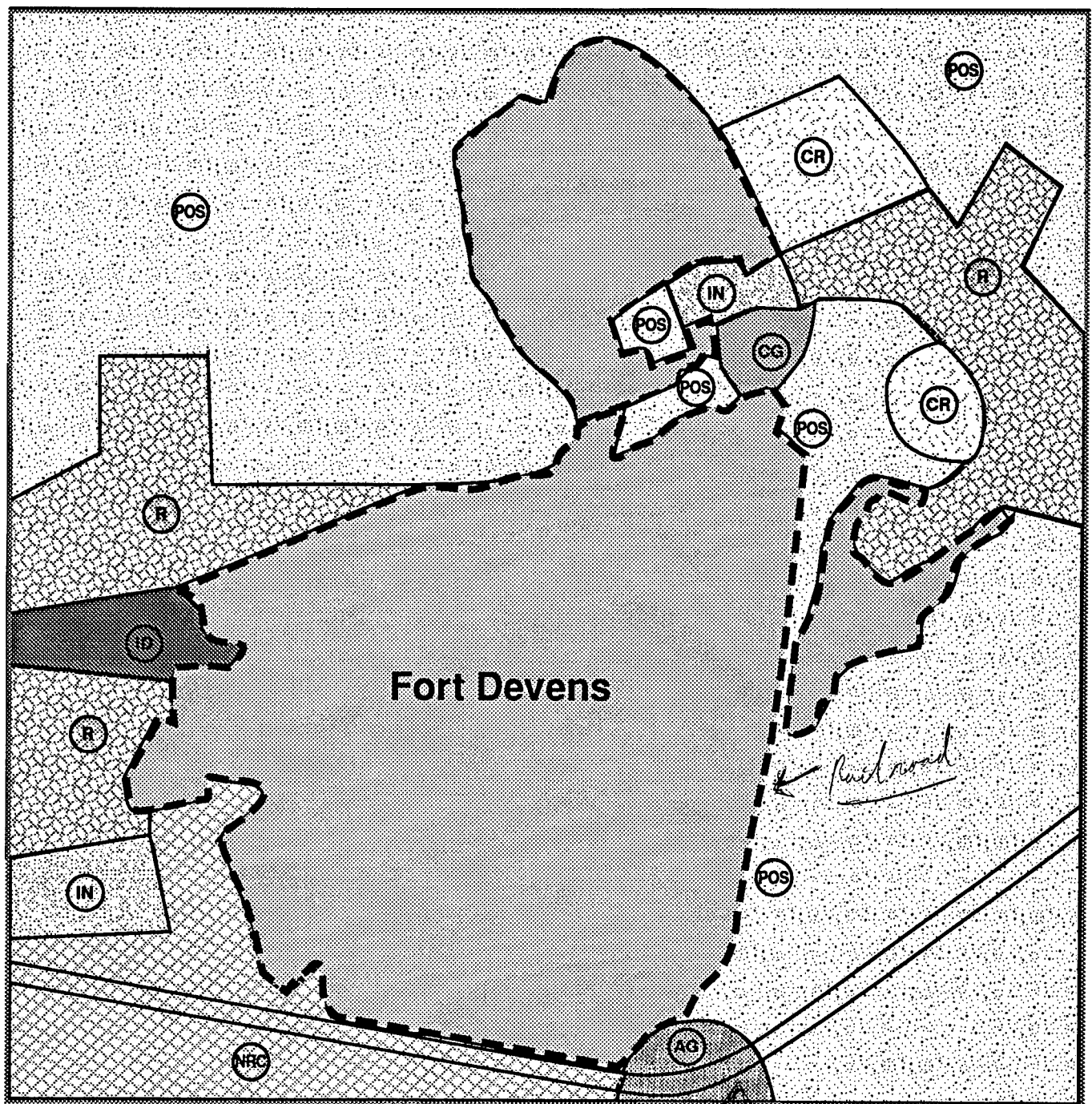


Scale in Miles



Figure 1-1

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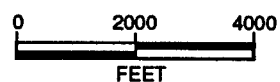


EXPLANATION

- POS Public Open Space and Recreation
- R Residential
- CG Commerical General
- CO Commercial Office
- CR Commercial Residential Mixed
- ID Industrial

--- Installation Boundary

- UT Utilities and Services
- AG Agricultural
- NRC Natural Resources Conservation
- UD Undeveloped
- IN Institutional



? OXBOW? Surrounding Off-Post Land Use
AREA

Figure 1-2

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In 1931, troops were again garrisoned at Camp Devens. It was declared a permanent installation, and in 1932 it was formally dedicated as Fort Devens. In 1940, Fort Devens became a reception center for New England draftees. Fort Devens expanded to more than 10,000 acres and a 1,200-bed hospital was built. In 1941, the Army Airfield was constructed. The installation's current wastewater treatment plant was also constructed in 1942.

During World War II, more than 614,000 inductees were processed at Fort Devens. Fort Devens' population reached a peak of 65,000. Three Army divisions and the Fourth Women's Army Corps trained at Fort Devens, and it was the location of the Army's Chaplain School, the Cook & Baker School, and a basic training center for Army nurses. A prisoner of war (POW) camp for 5,000 German and Italian soldiers was operated from 1944 to 1946. At the end of the war, Fort Devens again became a demobilization center, and in 1946 it reverted to caretaker status.

Fort Devens was reactivated in July 1948 and again became a reception center during the Korean Conflict. It has been an active Army facility since that time. Currently the mission at Fort Devens is to command and train its assigned duty units; operate the South Boston Support Activity in Boston, Massachusetts, Sudbury Training Annex, and Hingham USAR Annex; and to support the 10th Special Forces Group (A). The U.S. Army Intelligence School, U.S. Army Reserves, Massachusetts Army National Guard, and Reserve Officer Training Programs are also located at Fort Devens. A property acquisition summary for the BRAC property is provided in Table 1-3. Historical activities conducted at the installation are outlined in Table 1-4.

1.5 Environmental Setting

This section provides a brief description of the environmental setting for Fort Devens.

Physiography. Fort Devens is in a transitional area between the coastal lowland and central upland regions of Massachusetts. All of the landforms are products of glacial erosion and deposition on a crystalline bedrock terrain. The predominant physiographic (and hydrologic) feature in the Fort Devens area is the Nashua River.

The terrain at Fort Devens falls generally into three types. The least common is bedrock terrain. The more common terrain is till deposits left by the advancing glaciers. The third type and most common terrain at Fort Devens is glaciofluvial and glaciolacustrine deposits.

Geology and Hydrogeology. The soils in the Worcester County portions of Fort Devens consist generally of three associations Winooski-Limerick-Saco, Hinckley-Merrimac-Windsor, and Paxton-Woodbridge-Canton Associations. Three associations also have been identified in the Middlesex County portions of Fort Devens: Hinckley-Freetown-Windsor, Quonset-Carver, and Winooski-Limerick-Saco Associations.

Unconsolidated surficial deposits of glacial and postglacial origin comprise nearly all of the exposed geologic materials at Fort Devens. The glacial units consist of till, deltaic deposits of glacial Lake Nashua, and deposits of glacial meltwater streams. Fort Devens is underlain by low-grade metasedimentary rocks, gneisses, and granites. The installation is situated

TABLE 1-3. PROPERTY ACQUISITION SUMMARY

Tract Number	Previous Land Owner	Acreage		
		Fee Land	Easement Land	Acquisition Date
17	Allen, C.F.	7.00		
292	Benedict, G.W.	8.25		
187	Blood, S.A.	42.12		
182.01	Boston & Main RR	102.92		
59	Brewer, D.G.	9.00		
58	Brewer, G.A.	18.00		
124	Brown, A.L.	0.11		
26	Brown, W	11.14		
188	Parker, Ester	8.00		
178	Bruce, E.D.	5.00		
NL7	Bruce, E.T.	7.50		
13	Bulger, J.M. & A.A.	2.00		
	Callahan	1.00		
109	Chapman, M.	43.46		
98	Clark, Thos	7.87		
24	Clough, M.B.	19.93		
25.01, 25.02	Clough, M.B.	27.20, 27.20		
152	Davis, B.M.	1.55		
20	Davis, Julia B.	30.00		
255, 28, 87	Dickinson, D.H.	2.00, 31.00, 5.00		
C-4	Dickinson, J.W.	3.33		
46	Dickinson, S.C.	9.12		
NL19	Dickinson, Willard	6.00		
23	Donlon, M.A.	7.87		
22	Dudley, C.W.	4.00		
136, 145	Dudley, E.L.	25.00, 9.16		
NL10	Farmer, F.H.	53.75		
8, 8.01	Farmer, L.J.F.	3.00, 2.25		
2	Farrar & Hubbard	2.80		

TABLE 1-3. PROPERTY ACQUISITION SUMMARY**Continued**

Tract Number	Previous Land Owner	Acreage		
		Fee Land	Easement Land	Acquisition Date
C-1, 252	Farwell, J.	15.50, 6.00		
285	Fletcher, Mary	4.00		
19	Fletcher, M.F.	12.75		
84.01	Foti & Crocicchio	35.00		
15.01, 15.01	French, A.E.	15.19, 1.00		
NL18	Fuller, W.A.	3.25		
205	Gerrish, V.T.	6.00		
40.01, 40.02	Harlow, J.B.	0.50, 4.21		
62	Hazen, K.E.	65.00		
3	Hewes, C.H.	0.50		
43	Hill, D.R.	74.00		
19	Holden, Geo.	2.00		
C-5, 18.01, 18.02	Hovey, E.F.	2.00, 30.00, 30.00		
88, 88.01, 88.02, 88.03, 88.04	Hovey, Ella	10.00, 6.00, 3.00, 18.00, 5.00		
63.01, 63.02	Joyce, Patrick	38.00, 5.00		
130	Keith, F.L.	14.00		
52	Knight, H.A.	3.75		
64	Leahy, Mary	1.00		
NL2	Lovering, A.B.	5.00		
317.01	Lovering, J.L.	30.00		
317.02	Lovering F.	9.25		
39	Lovering, J.B.	84.00		
48, 48, 48, 49	Madden, M.A.	25.00, 86.00, 2.50, 10.00		
5	Markham, J.F.	12.00		
45	Maynard, J.E.	4.00		
36	McGregor, H.R.	62.00		

TABLE 1-3. PROPERTY ACQUISITION SUMMARY

Continued

Tract Number	Previous Land Owner	Acreage		
		Fee Land	Easement Land	Acquisition Date
47	Mead, H.P.	112.36		
60	McNalley, D.J.	45.00		
150	Normand, A.S.	44.00		
212	Page, S.M.	6.50		
17	Parker, F.E.	7.00		
163.01, 163.02	Perham, A.D.	4.00, 10.00		
42	Peters, F.H.	45.00		
13.02, 13.01A, 13.01B, 13.03, 13.04, 13.04, 13.06, 13.07, 13.08, 13.09, 13.10, 13.11, 13.11, 13.12, 13.13, 13.14, 13.14, 13.15A, 13.16, 13.17, 13.18, 13.20, 13.21, 13.21, 13.22, 13.23, 56.01, 56.02, 56.03, 56.03, 56.03, 56.06, 146.01, 146.02	Phelps, L.W. Hrs	1.00, 111.34, 88.00, 114.22, 5.95, 38.48, 18.00, 70.24, 7.00, 23.50, 22.00, 2.50, 4.50, 9.40, 10.00, 19.25, 13.50, 31.50, 4.30, 51.00, 4.00, 38.00, 39.00, 41.00, 7.55, 53.50, 4.25, 9.25, 4.00, 4.50, 3.00, 20.00, 15.00, 3.68		
235	Pollard, H.A.	11.00		
89	Pratt, H.G.	45.00		
284, 287.02, 287.03	Prescott, A.E.&O.A.	12.53, 8.00, 0.80		
57.01, 57.02, 57.03, 57.04, 57.05, 57.06, 57.07, 57.08, 57.09, 57.10, 57.12, 140.01, 140.03	Richardson, E.A.&C.E.	50.00, 7.00, 12.01, 17.11, 2.46, 5.50, 7.00, 11.37, 8.63, 5.25, 5.00, 60.00, 7.00		

TABLE 1-3. PROPERTY ACQUISITION SUMMARY

Continued

Tract Number	Previous Land Owner	Acreage		
		Fee Land	Easement Land	Acquisition Date
44	Royal, A.T.	13.36		
NL6	Scully, T.W.	1.00		
9	Sherwin, W.W.	17.00		
115.02	Stone, H.D.	2.00		
10	Thayer, H.A.	7.00		
NL1, NL11	Town of Ayer	5.00, 8.00		
6, 6.01, 6.02, 41, 191	Turner, A.H.	4.50, 10.00, 9.19, 10.75, 5.37		
NL16	Unitarian Church of Harvar	4.00		
50, 51.01, 51.02	Warrant & Dow	80.00, 28.84, 12.50		
C-3	Whitcomb, C.	4.50		
34	Willard, Abel	1.00		
NL8	Willard, J.W.C.	20.83		
37, 234.01, 234.02, 234.03	Worcester, C.F.	2.00, 17.00, 8.75, 14.93		
NL14	Wrangham, C.	2.00		
200	Boston & Main RR	16.12		
201	Town of Shirley	22.27		
202	Samson Cordage Works	105.83		
203	Bourgeois, Rose D.	4.90		
204	Deyo, Edward L.	5.65		
205	Lambert, Henry	5.80		
206	Lambert, Merlyn	1.26		
207	Kawalewskis, Waglawas	43.33		
208	Files, Esther	4.83		
209	Boston & Maine RR	1.23		
211	Files, Esther	24.00		
216	Town of Shirley	1.00		
217	Samson Cordage Works	2.24		

TABLE 1-3. PROPERTY ACQUISITION SUMMARY

Continued

Tract Number	Previous Land Owner	Acreage		
		Fee Land	Easement Land	Acquisition Date
221	Boston & Maine RR	52.80		
158	Ayer Driving Assoc.	16.50		
182	Boston & Main RR	5.77		
NL4	Davis, Susan	11.51		
16	Dodge, Belle M.	170.00		
29	Dupuis, C	180.00		
313.01, 313.02, 313.03, 313.04, 313.05, 313.06	Farnsworth, L.J.	16.00, 30.00, 20.00, 30.00, 30.00, 33.00		
11, 33	Fessenden, A.D.	65.37, 14.00		
27	Hackeff	8.61		
21.02	Harlow, Ed & Parsons	5.00		
30	Hewes, E.R.	34.64		
15	James, D.	8.00		
1	Kemp, H & F	31.52		
14	Mead, Henry C.	63.00		
21.01	Parsons	10.00		
13.24, 13.25, 13.26, 13.27, 13.28, 13.29	Phelps, Levi	6.45, 18.00, 12.40, 7.31, 20.00, 10.00		
57.11	Richardson, L & C	3.00		
265A	Steere, David	26.75		
249.01, 249.02	Stone, Lewis	21.00, 12.03		
12	Tuttle, Levi	7.60		
7, 265	Webb, Emma	8.60, 19.00		
61	Wood, Robert	30.00		

TABLE 1-4. HISTORY OF INSTALLATION OPERATIONS

Period	Type of Operation	Weapon System	Hazardous Substance Activities	Map Reference (see Figure 1-3)
Pre-1917	Residential, farmland, railroad operations	None	None Identified	NA
1917-1921	(Camp Devens) Training, reception, and demobilization center. Primarily tent housing	Infantry, Calvary, Artillery	None Identified	NA
1921-1931	(Caretaker Status) Training, rocket testing	Infantry, Calvary, Artillery	None Identified	NA
1932-1940	(Fort Devens) Troop garrison, limited construction	Unknown	None Identified	NA
1941-1946	Reception center, training center, POW camp, demobilization center, extensive construction	Infantry, Calvary, Artillery	Historic Gas Stations, Motor Repair, Fire Stations, Airfield Operations ⁴³ 30 etc.	61A, C, 61F, 61G, 61H, 61I, 61K, 61M, 61N, 61O, 61P, 61Q, 61R, 61S, 61T, 61U, 61V, 61W, 61X, 61Y, 61Z, 61AB, 61AF, 61AQ, 61AS, 61AT, 61AU, 61AV, 61BD
1946-1948	Caretaker Status	Unknown	No new identified (some previous continued)	NA
1948-1952	Reception center, training center, limited construction	Unknown	No new identified (some previous continued)	NA
1952-1964	Training, troop garrison	Unknown	No new identified (some previous continued)	NA
1964-1972	Reception center, training center, troop garrison, moderate construction	School (training), active units	No new identified (some previous continues, some still active)	61AK
1972-1991	Training, troop garrison	School (training), active units	No new identified (some previous continues, some still active)	61AC, 61AY
1991-Present	Training, troop garrison, preparation for closure	School (training), active units	No new identified	NA

Key: NA = Not Available

approximately 2 miles west of the Clinton-Newbury-Bloody Bluff fault zone, which developed when the ancestral European continental plate collided with an underthrust of the ancestral North American plate. The bedrock units underlying Fort Devens are as follows: Worcester, Oakdale, Berwick, Chelmsford Granite, and Ayer Granite Formations.

Fort Devens is in the Nashua River drainage basin which is the eventual discharge locus for all surface water and groundwater flow at the installation. The water of the Nashua river has been assigned Class B under Commonwealth of Massachusetts regulations. Groundwater in the surficial aquifer at Fort Devens has been assigned to Class I under Commonwealth of Massachusetts regulations. Class I consists of groundwaters that are "found in the saturated zone of unconsolidated deposits or consolidated rock and bedrock and are designated as a source of potable water supply" (314 CMR 6.03).

Potable Water. The Fort obtains its potable water supply from onsite groundwater production wells.

1.6 Hazardous Substances and Waste Management Practices

Historic hazardous substance activities are shown on Figure 1-3 and summarized in Table 1-5. No major industrial operations occur at Fort Devens, although several small-scale industrial operations are performed under the Directorate of Plans, Training, and Security; the Directorate of Industrial Operations; and the Directorate of Engineering and Housing (DEH). The major waste-producing operations performed by these groups are photographic processing and maintenance of vehicles, aircraft, and small engines. Current hazardous waste generating activities are summarized on Table 1-5 and include gas station operations, motor repair activities, fire station operations, and airfield operations. Hazardous wastes generated by these activities include waste oil, antifreeze, solvents, batteries, photographic developing solution, waste developer solution, and petroleum products. The satellite accumulation and 90-day storage areas temporarily stored this waste. It was then transported for storage to the Hazardous Waste Storage Facility (Building 1650-SA22), until offsite disposal thru the Defense Reutilization and Management Office (DRMO) or private contractor.

1.7 Off-Post Property/Tenants

Off-Post Property. The BCT has decided not to include off-post properties under the control of Fort Devens in this BCP. This decision has been made for two reasons:

1. These properties are not listed in the BRAC Act and continued maintenance and operation (to include environmental restoration and compliance) of these properties will be the role of the entity responsible for the Reserve Enclave at Fort Devens.
2. The focus of this BCP is to provide complete integration of environmental restoration, environmental compliance, and reuse planning and activities. Off-post properties are not BRAC properties.



EXPLANATION

- 61P Designation of Activity Location
- Installation Boundary

Location of Past
Hazardous
Substance
Activities



0 1750 3500
FEET

Figure 1-3

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TABLE 1-5. HAZARDOUS WASTE GENERATING ACTIVITIES

Facility	Activity	Name of Waste Material	Generation Rates	Disposition
Burke Reserve Center (3774)	G, AS	Waste Oil Virgin Oil Antifreeze Solvents *	NA	NA
Regional Training Site/Medical (1677)	G, AS	Waste Rags Filters Virgin Oil Antifreeze	NA	NA
104th Transportation Company Motor Pool	G, AS	Waste Oil Waste Rags Virgin Oil Filters Solvents*	NA	NA
Sport Utility Motor Pool (3451, 3457)	G, AS	Waste Oil Virgin Oil Solvents*	NA	NA
AAFES Gas Station	G, AS	Waste Oil Filters Waste Antifreeze Solvents*	NA	NA
Reserve Motor Pools (616, 617)	G, AS, SS	Waste Oil Filters Antifreeze Solvents*	NA	NA
Reserve Motor Pools (601, 602, 603, 604)	G, AS, SS	Waste Oil Filters Antifreeze Solvents*	NA	NA
2nd and 3rd Battalion, 10th SF Motor Pools (612, 613, 615)	G, AS, SS	Waste Oil Filters Antifreeze Solvents*	NA	NA
Golf Course Maintenance Shop (3606)	G, AS	Waste Oil* Filters* Antifreeze* Solvents* Pesticides	NA	NA
TMP Motor Repair Shop (2517)	G, AS	Waste Oil Antifreeze* Solvents*	NA	NA
Reserve Motor Pool (2602)	G, AS	Waste Oil* Antifreeze* Solvents*	NA	NA
Reserve Motor Pool (3601)	G, AS	Waste Oil* Antifreeze* Solvents*	NA	NA

TABLE 1-5. HAZARDOUS WASTE GENERATING ACTIVITIES**Continued**

Facility	Activity	Name of Waste Material	Generation Rates	Disposition
TDA Maintenance Facility and Reserve Maintenance Training (3713)	G, AS, SS	Battery Electrolyte Waste Oil Solvents* Metal Flakes Waste Antifreeze Filters Waste Rags	NA	NA
Airfield Support Facilities (3813, 3818)	G, AS	Filters Magnesium Dust Alkaline Batteries Waste Oil* Waste Rags* Solvents* Paint	NA	NA
Roads and Grounds Vehicle Maintenance Shop (219)	G, AS, SS	Waste Antifreeze Waste Oil* Filters Grease Solvents*	NA	NA
DPW Maintenance Shop and Storage Shed (247)	G, AS, SS	Waste Oil* Solvents* Oil Filters Antifreeze	NA	NA
HHC 10th SF Motor Pool (2446, 2479)	G, AS, SS	Waste Oil Waste Antifreeze Waste Rags Filters Solvents*	NA	NA
Airfield Fuel Dispensing Office (3809)	G, AS	Waste Rags Jet Fuel Antifreeze Spent Naptha	NA	NA
Photographic Laboratory (1453)	G, AS	Photo Developing Solution	NA	NA
Auto Craft Shop (3587)	G, AS, SS	Waste Oil Waste Antifreeze Filters Rags Solvents	NA	NA
Golf Cart Storage Shed (3625)	G, AS	Gasoline	NA	NA
Computer Room (P-3)	G, AS	Microfiche Waste	NA	NA
Cutler Army Hospital X-Ray and Dental X-Ray Rooms (3654)	G, AS	Waste Developer Solution	60 gal/month	AREE 61 AU (3757)
Vail Dental Clinic (2729)	G, AS	Waste Developer Solution	1.25 gal/month	AREE 61AU (3757)
Veterinary Clinic (1450)	G, AS	Waste Developer Solution	60 gal/year	AREE 61AU (3757)
Health Clinic Warehouses (3757)	SS	Waste Developer Solution	NA	From AREEs 61AM/AN/AO

TABLE 1-5. HAZARDOUS WASTE GENERATING ACTIVITIES**Continued**

Facility	Activity	Name of Waste Material	Generation Rates	Disposition
Heating and Electrical Shops (1417, 1420)	G, AS, SS	Waste Oil Waste Pipe Material	NA	NA
O'Neil Building (3412)	G, AS	Waste Rags	NA	NA
Intelligence and Reserve Training School (3413)	G, AS	Waste Oil Waste Antifreeze	NA	NA

Key: G = Generator
AS = Satellite Accumulation Point
SS = 90 Day Accumulation Point
NA = Not Applicable (or available) -
* = May have included this material

Tenant Units. As indicated, Table 1-7 the information on 25 significant tenant organizations on the installation was identified from installation real property records. The tenants with a pronounced presence on Fort Devens are the 10th Special Forces Group USAISD, 94th ARCOM, RTS-M, MEDDAC, and the PX.

TABLE 1-6. OFF-POST PROPERTIES

Description	Acreage	Date of Acquisition	Environmental Status	Location	Remarks
	The BCP has decided not to include off-post properties under the control of the Fort Devens in this BCP.				

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**There are no Off-Post Parcels
associated with the BCP at Fort
Devens.**

**Surrounding
Off-Post
Land Use**

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Figure 1-4

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TABLE 1-7. ON-POST TENANT UNITS

Tenant	Building
10th Special Forces Group	T-600, P-612, P-613, P-614, P-615, T-631, P-637, P-638, P-640, P-641, P-647, P-653A, P-653B, P-653C, P-653D, P-656A, P-656B, P-656C, P-656D, P-656E, P-666, P-675, P-678C, P-678D, P-679, P-680, P-686, P-687, P-1454, P-1455, P-1456, P-1457, P-1458, P-1459, P-1460, P-1461, P-1462, P-1463, P-1465, P-1466, P-1468, P-1470, P-1471, P-1472, P-1474, P-1476, P-1477, P-1478, T-1481, T-1601, T-1603, T-1606, T-2201, T-2202, T-2207, T-2291, T-2400, T-2410, T-2411, T-2412, T-2413, T-2416, T-2417, T-2420, T-2421, T-2422, T-2423, T-2424, T-2425, T-2426, T-2428, T-2429, T-2431, T-2432, P-2441, T-2446, T-2479, T-2505, T-2508, T-2529, T-2532ABC, T-2534, T-2535, T-2536, T-3609, T-3622, T-3623, P-3800, T-3801, T-3803, T-3807, T-3824, P-3840
USAF	P-688A, P-648
MARINES	P-688C, P-670
NAVY	P-688B, P-655
HPSA	P-688D
CID	T-1608, T-2735
NED	T-1629
NYD	T-1628
78TH DIV.	P-697
94TH MP	T-3749, T-3753
ROTC	T-1631, T-2734
USAISD	P-11, P-12, P-13, T-98, P-639, P-646A, P-646D, P-646E, P-651, P-652, P-653D*, P-653E, P-684, P-688E, P-689D, P-689E, P-693, P-1464, P-1473, P-1612, T-1617, P-3412, P-3413*
DRMO	T-204, P-213, T-214, T-218, T-222, T-228
94TH ARCOM	P-643, P-694, P-695, T-1623, T-1633, T-1643, T-1667, T-2296, P-3411, T-3582, P-3748, T-3750, T-3751, T-3755, T-3756, S-3759

TABLE 1-7. ON-POST TENANT UNITS**Continued**

Tenant	Building
RTS-M	T-622, T-1413, T-1637, T-1640, T-1642, T-1644, T-1645, T-1647, T-1648, T-1671, P-1677, P-1696, P-3713A
MEDDAC	P-464B, P-464C, P-674, P-681, P-691, P-1448, P-1450, T-2283, P-2729, T-3618, P-3654, T-3757, T-3758
RG DEVENS	P-25
756TH ENGR	P-255, P-603, P-604, P-T0T, P-608, T-2011, T-2012
4/157TH AVN	P-602, P-605, T-2418, T-2636, T-2686, T-2687, T-2688
PX	T-225, P-624, T-1436, T-1437, T-1616, P-2005, P-2006, P-2008, T-2009, T-2015, P-2016, P-2018, T-2020, P-2021, T-3573
11TH SF	T-1657, T-1658, T-1659, T-1660, T-1661
187TH INF	T-1411, T-3544, P-3773, P-3774, P-3775, P-3776
MANG, 26TH MMC	T-2206, T-2209, T-2651
126TH MI	T-1670
ITAAS	T-2281

CHAPTER 2

► PROPERTY DISPOSAL AND REUSE PLAN ◀

This chapter describes the status of the disposal planning process at Fort Devens and the relationship between the disposal process and environmental programs at the installation. It also identifies property transfer methods being utilized or considered in the disposal process.

2.1 Status of Disposal Planning Process

The disposal of Fort Devens involves three interrelated activities: development of a disposal plan, development of a community reuse plan, and the development of a disposal and reuse environmental assessment (EA). Each of these activities are in the development stage.

Disposal Plan. The disposal screening process is ongoing. The McKinney Act screening process is underway and state and local screening has not yet taken place. Following federal, state, and local screening, the U.S. Army will make the property available.

Reuse Plan. The Fort Devens Reuse Task Force is preparing a reuse plan. The reuse plan has identified 25 preliminary reuse parcels (designated Parcels A through Y) for planning purposes. According to the tentative reuse plan, approximately 190 acres will be used for housing to support the Air Force at Hanscom AFB; 245 acres will be used for construction of a low and medium security federal prison hospital complex; and 800 acres will be used for expansion of the Oxbow National Wildlife Refuge and a "greenway" along the Nashua River.

Disposal and Reuse Environmental Impact Statement (EIS). An EIS for the reuse of Fort Devens is scheduled to be issued in draft form in April 1994.

2.2 Relationship to Environmental Programs

Disposal and reuse activities at Fort Devens are intimately linked to environmental investigations, restoration, and compliance activities for two basic reasons:

- Federal property transfers to nonfederal parties are governed by CERCLA Section 120(h)(3)(B)(i).
- Residual contamination may remain on certain properties after remedial actions have been completed or put into place, thereby restricting the future use of those properties.

CERCLA Section 120(h)(3)(B)(i) requires deeds for federal transfer of previously contaminated property to contain a covenant that all remedial actions necessary to protect human health and the environment have been taken. CERCLA also requires that deeds for property on which a hazardous substance was stored for more than one year, released or disposed, include information on the type, quantity, and the time at which the storage or release occurred.

CERCLA provided clarification to the phrase "has been taken." This clarification states that all remedial action has been taken if the construction and installation of an approved remedial design has been completed, and the remedy has been demonstrated to the Administrator to be operating properly and successfully. It further states that conducting long-term pumping and treating, or operation and maintenance, after the remedy has been demonstrated to the Administrator to be operating properly and successfully, does not preclude the transfer of the property. Thus, any required remedial and/or removal response actions must be selected and implemented for such contaminated properties before transfer to private parties can occur.

The requirement for complying with CERCLA 120(h) and the possibility of residual contamination are factored into the property disposal and reuse process at Fort Devens. Table 2-1 takes these two factors into consideration, and presents summary information on Reuse Parcels A through Y and an approximate timetable for transfer by deed of each parcel at Fort Devens. Figure 2-1 graphically portrays the disposal and reuse parcels at the installation.

The Fort Devens BCP strategy and schedule is designed to streamline and expedite the necessary response actions associated with Reuse Parcels A through Y in order to facilitate the earliest possible disposal and reuse activities. Because of the need to delineate between areas suitable for transfer and those which are not, the BCT has developed an environmental-condition-of-property map and property suitable for transfer map for Fort Devens (see text and figures in Chapter 3.4) using data from the CERFA investigation of the installation. These maps allow the visualization of potentially contaminated areas and areas of no suspected contamination, and the relationship of these areas to disposal and reuse parcels.

CERFA established stringent requirements to designate a parcel as a CERFA "clean" parcel. At Fort Devens a number of acres, while not classified as CERFA "clean" present no threat to human health and the environment and will be available for transfer. The BCT will continue to update and refine the environmental condition-of-property and property suitable for transfer maps for Fort Devens.

2.3 Property Transfer Methods

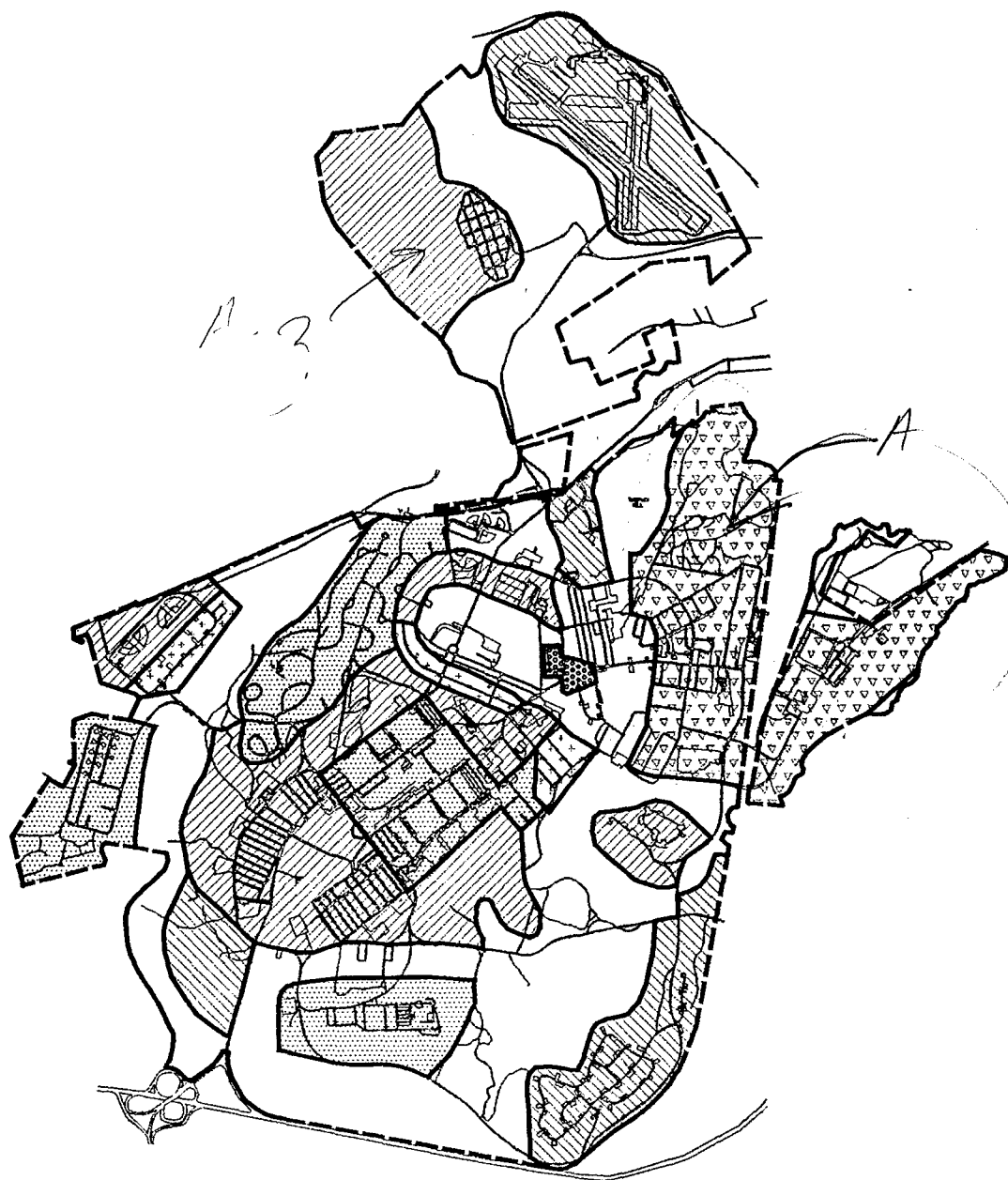
The various property transfer methods being utilized or considered in the disposal process at Fort Devens are described in this section. Transfer methods which may not be currently applicable but which may be considered in future disposal planning actions at the installation have also been identified.

2.3.1 Federal Transfer of Property









Federal transfer of property at Fort Devens via the Stewart B. McKinney Homeless Assistance Act is currently under consideration. Federal screening is in progress. Should a provider to the homeless wish to use the property within the scope of the Act, then a federal transfer could occur. The Fort Devens Reuse Task Force Subcommittee on the homeless is being proactive by meeting with the homeless providers to discuss which building facilities would be appropriate and economically feasible for use.

Figure 2-1 Disposal and Reuse Parcels

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EXPLANATION

- | | | | |
|---|-------------------------|---|--------------|
|  | Development Reserve |  | McKinney Act |
|  | Residential | | |
|  | Commercial/Office Space | | |
|  | Federal Government | | |
|  | Rail Related Uses | | |
|  | Open Space | | |
|  | Installation Boundary | | |



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Disposal
and
Reuse
Parcels

Figure 2-1

Fort Devens, Massachusetts



repeated?

Other possible federal land disposition options include:

- ▶ Department of Defense - Approximately 190 acres for housing to support the Air Force at Hanscom Air Force Base.
- ▶ Federal Bureau of Prisons - Approximately 245 acres for construction of a low and security federal prison hospital complex.
- ▶ U.S. Fish and Wildlife Service (USFWS) - Approximately 800 acres for expansion of the Oxbow National Wildlife Refuge and a "greenway" along the Nashua River.

2.3.2 No-Cost Public Benefit Conveyance

This property transfer method allows for the transfer, at no cost, of property to state and local agencies. This option would require coordination with the Enterprise Commission. Any proposed conveyance must be for direct public use, and must be in accordance with the Master Re-use Plan. To date, no such proposed transactions from either local government or the Massachusetts Government Land Bank (MGLB) have been identified.

2.3.3 Negotiated Sale

This property transfer method involves direct negotiation with the purchasing entity for the purchase of excess property. The "Pryor Amendments" to the 1993 Defense Authorization Act have allowed for reduced cost sales (below market value) to stimulate redevelopment and reflect capital outlays by redevelopment interests. For transfer to state and local use, this may be the method of transfer for those properties identified for state/local use in the screening process.

2.3.4 Competitive Public Sale

This property transfer method involves competitive public sale of properties remaining for closure after the screening process and/or not being transferred by negotiated sale. The property is put up for public sale through a variety of bid processes, and the transfer to the selected purchaser is executed. To date, no such proposed transactions have been identified.

2.3.5 Widening of Public Highways

There is no indication at this time that any property at Fort Devens will be transferred for the widening of public highways.

2.3.6 Donated Property

This property transfer method involves donation of property, usually to a state or local government entity. This is usually done for property of "no anticipated commercial value," such as a roadway. There is no indication at this time that any property at Fort Devens will be donated.

2.3.7 Interim Leases

Interim leases are a means by which the Army grants a lease to an entity to allow for interim use of property prior to transfer. The methodologies are similar to those for transfer, described above, with the Finding of Suitability to Transfer being replaced with a Finding of Suitability to Lease.

Table 2-2 identifies the grantee, property/facility, effective date, and termination date of each interim use agreement currently in place at Fort Devens.

TABLE 2-2. EXISTING LEGAL AGREEMENTS/INTERIM LEASES

Type of Instrument	Contract Number	Grantee	Purpose	Term
License	010-1	Willard Family Assoc.	To erect a tablet	4/9/35 - Indefinite
Easement	01-2	Wachusett Elec. Co.	Right of way for transmission of electric current	12/2/46 - 12/1/96
Easement	010-4	New England Power Co.	Right of way for transmission of electric current	12/29/17 - Indefinite
Easement	010-5	New England Power Co.	Right of way for transmission of electric current	7/8/18 - Indefinite
Easement	010-6	New England Power Co.	Right of way for transmission of electric current	7/8/18 - Indefinite
Easement	010-7	New England Power Co.	Right of way for transmission of electric current	7/8/18 - Indefinite
Easement	010-8	Commonwealth of Massachusetts	Right of way for road across portions of Fort Devens (91.2 AC) transmission of electric current	5/22/50 - Indefinite
Easement	010-10	Commonwealth of Massachusetts	Right of way to extend and maintain road at Fort Devens	8/12/41 - Indefinite
Easement	010-12	Commonwealth of Massachusetts	Right of way to widen existing road at northern boundary	11/28/27 - Indefinite
Easement	010-14	Commonwealth of Massachusetts	Right of way for public road and bridge across parcels of land at Fort Devens	6/18/47 - Indefinite
Permit	DACA51-4074-119	HEW	Elementary School and addition	6/173 - Indefinite
Easement	DACA51-2-72-197	Mass Electronic	Right of Way to ??? transmission line for telephone line	11/4/63 - 11/3/2013
License	DACA33-3-88-43	Spectacle Pond Park As.	Non-exclusive right of way for access to boat pier	3/15/88 - 3/14/93

TABLE 2-2. EXISTING LEGAL AGREEMENTS/INTERIM LEASES**Continued**

Type of Instrument	Contract Number	Grantee	Purpose	Term
License	DACA33-3-88-42	Amer. Ntl. Red Cross	Maintain and operate buildings 3575 and 3579	9/17/88 - 9/16/93
Easement	DACA51-2-77-513	Commonwealth of Massachusetts	Right of way for relocation of Route 2A (7.71 AC)	5/30/77 - Indefinite
Easement	DA19-016-E-2060	Northeast Gas Transmission Company	Right of way for gas pipeline	6/30/52 - 6/29/2002
Lease	DACA51-1-71-296	Worcester County Ntl. 1 Bank	Banking Facility	3/22/71 - 3/21/96
License	DACA33-3-88-58	Pan Am World Airways Inc.	Airline tickets	11/1/88 - 10/31/93
Lease	DA19-016-E-7034	Fort Devens Hs. #17 Inc.	Housing Units (53.4 AC)	9/14/60 - 9/13/2015
Lease	DA19-016-E-7035	Fort Devens Hs. #18 Inc.	Housing Units (48.2 AC)	9/14/60 - 9/13/2015
Lease	DA19-016-E-7036	Fort Devens Hs. #19 Inc.	Housing Units (65.3 AC)	9/14/60 - 9/13/2015
Lease	DA19-016-E-7037	Fort Devens Hs. #20 Inc.	Housing Units (42 AC)	9/14/60 - 9/13/2015
Lease	DA19-016-E-7038	Fort Devens Hs. #21 Inc.	Housing Units (14 AC)	9/14/60 - 9/13/2015
Easement	DA19-016-E-7253	Town of Ayer	Right of way to install 18 inch sewer force main	6/6/61 - 7/5/2011
Easement	DA19-016-E-8153	AT&T Co.	Right of way for underground communication cable	8/20/64 - 8/19/2014
Lease		B&M Railroad	Building 3712	April 1993 - April 1994
Easement	DACA-33-2-69-91	Town of Ayer	Right of way for installation of sewer lift station	3/31/69 - 3/20/2019
Easement	DACA51-2-77-513	Commonwealth of Mass	Right of way for relocation of Route 2A	5/20/77 - Indefinite
Easement	DACA33-2-89-54	Tennessee Gas Pipeline	Right of way for gas pipeline	6/30/89 - 6/29/2039

TABLE 2-2. EXISTING LEGAL AGREEMENTS/INTERIM LEASES**Continued**

Type of Instrument	Contract Number	Grantee	Purpose	Term
License	DACA33-3-88-59	MAARNG	Use of Bldgs. T2651, 2206, 2209	9/23/88 - 9/22/93
License	DACA51-3-88-23	Service Fed. Credit Union	Credit Union	10/1/91 - 9/30/93
License	DEH-64	Bargain & Boutique	Thrift Shop	10/1/91 - 9/30/93
License	DEH-65	Americal Div.	Museum	10/1/91 - 9/30/93
License	DEH-66	Boy/Girl Scouts	Meetings and storage	10/1/91 - 9/30/93
Easement	DACA51-2-76-326	New England Power Co.	To construct and maintain overhead transmission wires on Fort Devens	1/19/76 - 1/2026
Easement		New England Telephone	To install cable	6/10/74 - Indefinite
License	DA19-016-ENG-8136	AT&T Co.	To construct communications system	8/20/64 - 8/19/66
License		New England Power Co.	New England Power/Quebec Transmission Line Project	3/8/88 - Indefinite
Permit	DA19-035-A1-4015	Boston Gas Co.	Gas mains and facilities located at Fort Devens	6/1/95 - Indefinite
License		Riding Club		Pending
Permit	DACA33-4-88-54	FBI	Request for range	6/1/88 - 5/31/93
License	DACA51-3-86-543	FMC Corp.	Installation of ground water monitoring wells	6/1/86 - 5/31/91
License	DACA33-3-89-69	MIT Lincoln Lab	Use of range area	6/1/86 - 5/31/91
License	DACA33-3-89-69	MIT Lincoln Lab	Use of range area	3/93 - Pending

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CHAPTER 3

► INSTALLATION-WIDE ENVIRONMENTAL PROGRAM STATUS ◀

This section provides a summary of the current status of environmental restoration projects and ongoing compliance activities at Fort Devens. It also summarizes the status of the cultural and natural resources program, community involvement to date, and describes the environmental condition and suitability for transfer of the installation property.

3.1 Environmental Program Status

On 15 November 1991, Fort Devens and USEPA Region I signed a Federal Facilities Agreement (FFA) pursuant to the following authorities: Section 120 of CERCLA, Sections 6001, 3008(h), 3006, and 3004(u) and (v) of the RCRA, NEPA, and the Defense Environmental Restoration Program. (Note: The MADEP did not sign the FFA).

The FFA requires compliance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), CERCLA guidance and policy, RCRA guidance and policy, and applicable state law. Under Section 5.9 of the FFA, the MEP will be the detailed, comprehensive plan for the work to be performed pursuant to CERCLA. The MEP is updated annually to reflect decisions made on each site.

Under Section 6.3 of the FFA, Fort Devens agreed to undertake, fund, implement, and report on the following tasks, if required:

- Preliminary assessment and site inspection of potentially contaminated sites;
- RIs of all contaminated sites;
- FSs for all contaminated sites;
- Proposed plans and RODs for all contaminated sites;
- Remedial Actions, Removals and Remedial Designs (RDs) for all contaminated sites; and
- Operation and maintenance of Remedial Actions at contaminated sites.

Table 3-1 lists 59 Areas Requiring Environmental Evaluation (AREEs) which have been and/or are currently being investigated at the installation. The Table identified the various investigations conducted at each site and summaries investigation findings. The environmental

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

AREE Number	AREE Description	Environmental Investigation Report Results/Findings					Final Determination
		CERFA	ENPA	SI	RI/FS	Findings	
1	Cutler Army Hospital Incinerator	×	×			No Hazardous Waste action required	NFA in MEP Update - April 1993
2	Veterinary Clinic Incinerator	×	×			No Hazardous Waste action required	NFA in MEP Update - April 1993
3	Intelligence School Incinerator	×	×			No Hazardous Waste action required	NFA in MEP Update - April 1993
4	Sanitary Landfill Incinerator (Building 38)	×	×		×	Organic and inorganic contaminants impacting groundwater and sediments (OU includes AOCs 5 and 18)	Pending FS completion
5	Shepley's Hill Landfill	×	×		×	Organic and inorganic contaminants impacting groundwater and sediments (OU includes AOCs 4 and 18)	Pending FS completion
9	North Post Landfill (No. 5)	×	×	×		Building rubble disposal. No evidence of hazardous waste	NFA submitted December 1993 - solid waste closure required
10	Landfill No. 6 - Near Shirley Gate	×	×			No evidence of any disposal	Draft NFA submitted April 1994
11	Landfill No. 7 - Near Lovell Street	×	×		×	Building rubble disposal, possible inorganic impact on surface water and sediments	Pending RI/FS completion
13	Landfill No. 9 - Near Lake George Street	×	×	×		Tree, stump and other solid waste disposal. No evidence of hazardous waste	Draft NFA to be submitted June 1994 - solid waste closure required
16	Landfill No. 12 - Main Post Near Shoppette	×	×			No evidence of any disposal	Draft NFA submitted April 1994
17	Landfill No. 13 - Mirror Lake	×	×			Historic evidence of WW II grenades	Pending SSI completion
18	Landfill No. 1 - Asbestos Cell	×	×		×	Organic and inorganic contaminants impacting groundwater and sediments (OU includes AOCs 4 and 5)	Pending FS completion
19	Wastewater Treatment Plant	×	×	×		No evidence of hazardous waste release	Draft NFA submitted January 1994
20	Rapid Infiltration Basins	×	×	×		No evidence of hazardous waste release	Draft NFA submitted January 1994
21	Sludge Drying Beds	×	×	×		Inorganics detected below beds, but remediation would overly impact habitat as opposed to allowing to remain in place	Draft NFA submitted January 1994
22	Hazardous Waste Storage Facility (Building 1650)	×	×			No evidence of hazardous materials release	NFA in MEP, April 1992

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

Continued

AREE Number	AREE Description	Environmental Investigation Report Results/Findings					Final Determination
		CERFA	ENPA	SI	RI/FS	Findings	
23	Paper Recycling Center (Building 1650)	×	×			No evidence of hazardous materials release	NFA in MEP, April 1992
24	Waste Explosive Storage Bunker (Building 3644)	×	×	×		No evidence of explosives release	NFA DD approved February 1993
29	Transformer Storage Area (Building 1438)	×	×			No evidence of PCB release	Draft NFA submitted April 1994
30	Drum Storage Area - MAAF	×	×	×		All hazardous waste/petroleum compounds below levels of concern	NFA submitted December 1993
31	Firefighting Training Area MAAF	×	×	×		Petroleum compounds below levels of concern	Draft NFA submitted January 1994
32	DRMO Yard	×	×	×	×	Petroleum compounds and PCBs detected in soil	Pending RI/FS completion
33	DEH Entomology Shop (Building 262)	×	×			Limited area of pesticide contamination	Pending removal action completion
34	Former DEH Entomology Shop (Building 245)	×	×			Limited area of pesticide contamination	Pending removal action completion
36	Former DEH Entomology Shop (Building 2728)	×	×			Limited area of pesticide and petroleum contamination	Pending removal action completion
37	Golf Course Entomology Shop (Building 3622)	×	×			Limited area of pesticide and petroleum contamination	Pending removal action completion
38	Battery Repair Area (Building 3713)	×	×	×		Possible area of lead contamination under Battery Room floor	Pending removal action completion
40	Cold Spring Brook Landfill	×	×		×	Inorganic contamination in sediments	Pending FS completion
43	Historic Gas Station Sites	×	×	×	×	Petroleum contamination above action levels at 43A, 43D, 43G, 43H, 43I, 43J	NFA for 43C, E, F, K, L, M, P, Q, R, S submitted January 1994. Draft NFA for 43B, N, O to be submitted June 1994. 43D, H, I pending removal action completion. 43A, G, J, pending RI/FS completion.
44	Cannibalization Yard	×	×	×	×	Petroleum and PAH contamination above action levels (OU includes AOC 52)	Pending final Proposed Plan/ROD
45	Wash Rack at Lake George Street	×	×	×		No evidence of petroleum release	NFA in MEP update, April 1993
47	Buildings 3816 Leaking UST Site - MAAF	×	×	×		No evidence of petroleum release above action levels	NFA submitted December 1993
48	Building 202 Leaking UST Site	×	×	×		Petroleum release from UST	Pending removal action completion

TABLE 3-1. PRELIMINARY LOCATION SUMMARY

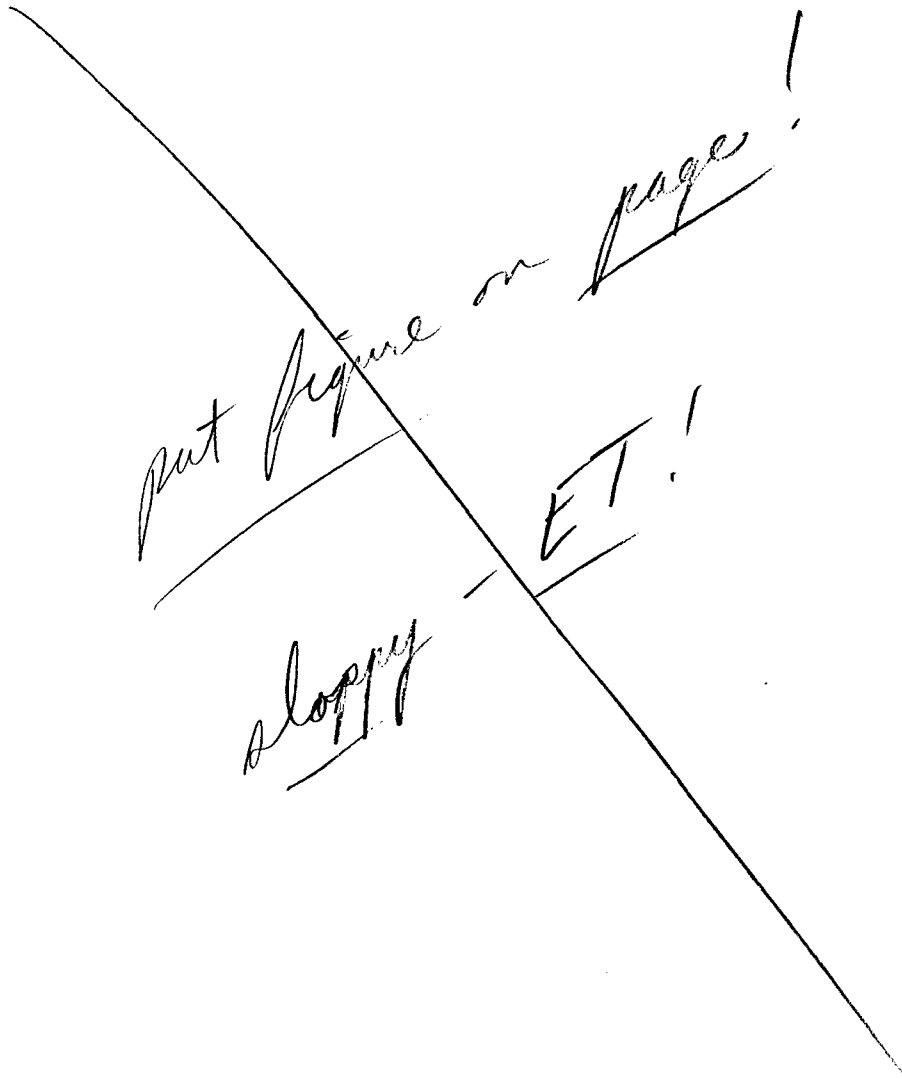
Continued

AREE Number	AREE Description	Environmental Investigation Report Results/Findings					Final Determination
		CERFA	ENPA	SI	RI/FS	Findings	
49	Building 3602 Leaking UST Site	×	×	×		Petroleum release from UST	Pending removal action completion
50	WWII Fuel Points - MAAF	×	×	×		Petroleum release from UST and perchloroethylene release	Pending removal action completion
51	Building 3412, O'Neill Building Spill Site	×	×			Possible petroleum release from spill site	Pending SSI completion
52	TDA Maintenance Yard	×	×	×	×	Petroleum and PAH contamination above action levels (OU includes AOC 44)	Pending Final Proposed Plan/ROD
55	Shirley Housing Area Trailer Park Fuel Tanks	×	×			Possible petroleum releases from USTs	NFA in MEP update, April 1993 - managed under installation UST program
56	Building 2417 Leaking UST Site	×	×	×		Petroleum release from UST	Pending removal action completion
57	Building 3713 Fuel Oil Spill Site	×	×	×		Petroleum release from equipment parking area	Pending removal action completion
58	Building 2648 and 2650 Leaking UST Sites	×	×	×		Petroleum levels below action levels, remediated during UST removal	NFA submitted January 1994
59	Bridge 526	×	×			Lead released from sandblasting, below action levels	Draft NFA submitted April 1994

Key: NFA = No Further Action

SSI = Supplemental Site Report.

Figure 3-1 Sites, Zones, and OUs Currently Under Investigation



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EXPLANATION

- Zone
- Zone Boundary
- Site Specific AREE
- Non Site Specific AREE
- Installation Boundary

Sites, Zones,
and OUs
Currently Under
Investigation



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Figure 3-1

Ten Additional - 60-70

TABLE 3-3. ENVIRONMENTAL RESTORATION EARLY ACTION STATUS

IRP Site No.	Action	Purpose	Status
SA 15	Excavation of contaminated soil	Removal of contamination source	NFRAP being reviewed
SA 48	Excavation of contaminated soil	Removal of contamination source	NFA DD being reviewed
SA 50	Soil vapor extraction	Removal of contamination source	Under operation
SA 38	Excavation of contaminated soil	Removal of contamination source	Closure report being prepared
SA 37, 57, 33, 34, 35, 36, 430, 43H, 43I	Excavation of contaminated soil	Removal of contamination source	Removal action to begin Spring 1994

3.1.2 Installation-Wide Source Discovery and Assessment Status

Ten installation-wide AREEs were identified (Training Areas, Waste Accumulation Areas, USTs-existing, USTs-previously removed, ASTs, Asbestos, Transformers, Radon, Lead Paint, and Past Spill Sites). One AREE (storm sewer system) was subsequently added by the fort. Ten of the AREEs will be further investigated in follow-on assessments. One AREE (60: Training Areas and Ranges) will not be included in the follow-on assessment as they are currently being managed by the installation under existing compliance programs.

The BRAC Environmental Evaluation (EE) was initiated as an installation-wide source assessment. The BRAC EE was conducted in three phases. Phase I was started during April 1993 and address AREE 61 (Maintenance and Waste Accumulation Areas), AREE 62 (USTs - Existing), AREE 63 (USTs - Previously Removed), AREE 64 (Aboveground Storage Tanks), AREE 66 (Transformers), and AREE 69 (Past Spill Sites). Phase II of the BRAC EE was initiated during May 1993. It addresses AREE 70 (Storm Water Systems). Phase III of the BRAC EE covers AREE 65 (Asbestos), AREE 67 (Radon), and AREE 68 (Lead Paint).

A field investigation phase of the CERFA project was initiated during August 1993 and completed during October 1993 at Fort Devens. The primary objective of CERFA is to expeditiously identify real property offering the greatest opportunity for immediate reuse and development.

A summary of the AREEs are summarized in Table 3-2 and detailed in Appendix F.

↑
No

3.2 Compliance Program Status

Compliance actions at Fort Devens can be divided into two separate categories, current mission- and operational-related compliance projects and closure-related compliance projects. Mission- and operational-related projects are those which have been or would be conducted for the normal operation of the installation and are unrelated to activities necessitated by installation closure under BRAC. Conversely, closure-related compliance projects are those conducted specifically as a result of environmental compliance and restoration activities related to BRAC closure and property disposal.

Compliance activities at Fort Devens are being conducted in coordination with environmental restoration activities under the IRP. General compliance activities address the management of USTs, hazardous materials, asbestos, radon, polychlorinated biphenyls (PCBs), and water discharges. Compliance-related remedial actions at Fort Devens include removal of USTs, removal of PCB transformers and removal of friable asbestos. The various environmental compliance projects at Fort Devens are identified by mission-related and closure category on Tables 3-4 and 3-5, respectively.

Two compliance-related activities at Fort Devens have been completed as early actions and are identified in Table 3-6. A more detailed description of the various environmental compliance programs at Fort Devens is provided in the subsections below.

3.2.1 Storage Tanks

USTs and ASTs have historically and are currently utilized for the storage of petroleum products and wastes at Fort Devens. Compliance activities and environmental restoration activities related to these storage tanks are described below:

Underground Storage Tanks. The USEPA has delegated the management of the UST program to the Commonwealth of Massachusetts. The MADEP has primary enforcement and USEPA's approval effectively suspends the applicability of certain federal regulations in favor of the state program, thereby eliminating duplicative requirements. Therefore, UST closure and investigation activities at Fort Devens are being conducted in under MADEP Policies WSC-400-89, WSC-401-91, and 9355.7-03. A total of 406 former and/or current USTs have been identified by the installation EMO. The EMO developed the Fort Devens BRAC UST Management Plan in February 1994. The Plan addresses compliance issues related to UST registration, retrofit, leak detection, and removal and restoration. Existing USTs are covered under AREE 62 (Existing USTs). Previously removed USTs are covered under the Phase I BRAC EE for AREE 63 (USTs - Previously Removed). The UST inventory is listed in Table 3-7.

The UST Management Plan groups existing USTs into five unique categories based on their location: (1) within the projected U.S. Army Reserve enclave; (2) located at facilities of masonry construction; (3) those at wooden buildings currently heated and in use; (4) those at winterized or unheated wooden buildings; and (5) those at abandoned buildings. None of the facilities in Groups 3 through 5 have post-closure use identified. The Plan also projects

compliance deadlines for removal of abandoned and out-of-service USTs in accordance with UST regulations.

3 - Fort Devens, with the assistance of USAEC, developed an UST Removal Protocol during 1993 in order to establish policy and procedures for the removal of USTs on Fort Devens. The protocol provides detailed methods for the removal of USTs as well as field and confirmation sampling. Based on the removal results, the UST site is classified as localized or beyond localized. Localized Release (LR) sites are those that can be remediated during the UST removal, and following confirmatory sampling, classified as NFRAP. Beyond Localized Release (BLR) sites are those where the extent of contamination is beyond the scope of UST removal activities to address. Potential BLR sites are the 14 UST sites being investigated by NED (Section 3.1.2.2., above). A BLR sites can be immediately classified as an AOC in accordance with the FFA, or undergo further evaluation to quantify the nature of contamination and associated risk. After this evaluation, a recommendation of NFRAP, contaminated soil removal, or inclusion in the FFA as an AOC is made.

Aboveground Storage Tanks. AST compliance programs at Fort Devens are conducted under Department of Army (DOA) Regulation AR 200-1, the federal requirements including 40 CFR Parts 110, 112, and 116, and applicable state regulations. Thirty-six ASTs are currently present at Fort Devens. The tanks primarily store waste oil. Table 3-8 provides an inventory of these ASTs. Due to the small AST inventory, and the lack of associated regulatory requirements, the BRAC AST Management Plan has not been developed to the level of the UST Management Plan. The EMO will develop an AST Management Plan consisting of a current inventory of all existing ASTs at Fort Devens and a discussion of pertinent compliance issues. The AST inventory is listed in Table 3-8.

3.2.2 Hazardous Materials/Waste Management

Hazardous waste compliance programs at Fort Devens are conducted under DOA Regulation AR 200-1, and the federal requirements found in 40 CFR 260 through 269, 40 CFR 117, 49 CFR 171 et. seq., Department of Transportation (DOT) regulations, and Commonwealth of Massachusetts regulations.

Fort Devens currently has a RCRA Part B Permit to operate a Hazardous Waste Storage Facility at Building 1650. The facility has been operational since 1980 and consists of 3,000 square feet of storage area. Satellite and 90-day storage areas are managed and inspected by the EMO. Prior to closure of Fort Devens, the hazardous waste storage areas and the permit will either be transferred to the reserve enclave or the facility will be closed in accordance with the permit closure plan.

14 UST sites are among
some of the BLR sites
found on Fort Devens to
date. (Table-3-4)

TABLE 3-8. ABOVEGROUND STORAGE TANK INVENTORY

Location	Size (Gallons)	Contents	Quantity
601	300	Waste Oil	1
602	300	Waste Oil	1
603	300	Waste Oil	1
604	300	Waste Oil	1
3713	600	Waste Oil	1
	550	Waste Oil	1
3713	600	Waste Oil	1
	550	Waste Oil	2
3713	300	Waste Oil	1
	550	Waste Oil	1
612	250	Waste Oil	2
2446	250	Waste Oil	1
3774	250	Waste Oil	1
	550	Waste Oil	2
619	250	Waste Oil	2
1401	250	Waste Oil	2
3818	250	Waste Oil	2
219	500	Waste Oil	1
3587	500	Waste Oil	2
1650	250	Waste Oil	3
2008	500	Waste Oil	1
1427	275	Heating Oil	1
219	10000	Unleaded Gas	1
202	300	Waste Oil	2
3770	275	Diesel Fuel	1
3810	NA	Diesel Fuel	1

3.2.3 Solid Waste Management

Solid waste management compliance programs at Fort Devens are conducted under AR 200-1 and 420-47, the federal requirements found in 40 CFR 240-246 and 40 CFR 257-258, Department of Transportation regulations, and the Massachusetts Solid Waste Management Regulations. Solid wastes currently generated at Fort Devens are managed in accordance with all applicable state and federal regulations.

A total of 15 locations were identified as "Landfills" in the MEP. Status of 14, 15, and 17 are currently review. SA 7 and 8 were never located and are considered as No Further Response Action Planned (NFRAP) sites with regulatory concurrence. SA 10 and 16 were investigated under the Main Post SI. It was determined that no disposal occurred at these sites, therefore, they were recommended for NFRAP. The Shepley's Hill Landfill (AOC 4, 5, & 18) is considered closed under the MADEP approved closure plan. Seven remaining locations include: AOC 11, 40, and 41, and SAs 6, 9, 12, and 13. Of these, AOCs 11, 40, and 41 will be closed under CERCLA remediation. SAs 6, 9, 12, and 13 will be closed under the stated delegated RCRA Subpart C program. One additional solid waste area, AREE 61BG, which was used for disposal of various asphalt and concrete materials, will be cleaned up and the material recycled.

3.2.4 Polychlorinated Biphenyls (PCBs)

PCB management compliance programs at Fort Devens are conducted under AR 200-1, the federal requirements found in 40 CFR 761, DOT regulations, and MADEP guidelines.

An installation-wide basewide transformer study was completed in 1982 by the Facility Engineering Support Activity. At this time each transformer was inspected for leaks and was labeled as either a PCB-containing transformer or non-PCB-containing transformer. Nine hundred transformers were inspected and approximately 100 transformers were identified as containing PCBs.

Under the BRAC EE, AREE 66 (Transformers) was investigated. The purpose of this study was to identify locations where transformers containing PCB oil may have leaked onto the soil on the Main and North Posts of Fort Devens.

After 1990, Fort Devens policy required the replacement of all PCB transformers containing oil that exceeded 500 ppm of PCBs. The last PCB transformer was replaced on Fort Devens during the summer of 1993, and current (1993) records indicate no transformers containing PCB oil in excess of 500 ppm are present at Fort Devens.

Fort Devens conducts quarterly inspections of all transformers containing PCBs. The EMO is also initiating a program to replace all PCB contaminated transformers (PCBs between 50 and 500 ppm) on the fort.

3.2.5 Asbestos

Asbestos-containing material (ACM) is regulated by USEPA, the Occupational Safety and Health Administration (OSHA), and the Commonwealth of Massachusetts. Asbestos at Fort Devens is managed in compliance with the DOA guidance "Lead-Based Paint and Asbestos in U.S. Army Properties Affected by Base Realignment and Closure."

Because of the era during which many of the buildings were constructed at Fort Devens, ACM is assumed to have been used in construction. An Asbestos Materials Survey Analysis and Assessment was conducted by Fort Devens in 1987. Because the study does not distinguish between friable and nonfriable asbestos, Fort Devens uses the report for screening purposes.

Further testing of most of the buildings suspected to contain ACM is ~~being planned and will be~~ ^{being} conducted within the next four months. A decision to remove or encapsulate ACM will be taken based on the study results.

3.2.6 Radon

completed man 95! completed

The radon reduction program at Fort Devens is conducted under AR 200-1, Chapter 11, U.S. Army Radon Reduction Program. Fort Devens has an ongoing radon testing and management program. All Category I, II, and III structures have been tested. Mitigation measures have been identified and are underway. Testing of Category III (work facilities and any new construction) is ongoing at this time. Results are expected starting May 1994. To date no facility has tested at or above 20 pCi/L. There are 16 facilities which tested in the 8-20 pCi/L range and require mitigation within 1-4 years. There are also 133 facilities in the 8-4 pCi/L range that will need mitigation within 5 years. All affected facilities have been reported to the Directorate of Public Works (DPW) and the residents have been notified. Also whenever a facility which falls into any of the above categories becomes vacant, mitigation measures are started immediately before the arrival of the next resident. At this time, sealing of floors in the vacant housing units with elevated level is being done.

3.2.7 RCRA Facilities

Solid Waste Management Units (SWMUs) are no longer managed at Fort Devens as all previous SWMUs were identified under the FFA as IRP SAs or AOCs when the installation was placed on the NPL. The RCRA integration clause of the FFA addresses CERCLA/RCRA integration. Fort Devens has a RCRA permitted hazardous waste storage facility at Building 1650. The facility will continue to operate until closure.

3.2.8 NPDES Permits

Fort Devens does not hold a National Pollution Discharge Elimination System (NPDES) permit under the Clean Water Act.

3.2.9 Oil/Water Separators

Oil/water separators at Fort Devens are managed under the installations spill prevention control and countermeasures (SPCC) program, in accordance with applicable federal regulations including Section 313(a) of the Clean Water Act and regulations 40 CFR Parts 110, 112, and 122, DoD Directives, and AR 200-1.

Oil water separators were investigated either under the IRP SIs or RI/FSs, or under the BRAC EE Phase I and II (AREEs 61 and 70). One IRP site, SA 45 - Lake George Street Washrack, had an oil/water separator which was recommended for closure. The closure design is under review. Additional oil water separators were identified from construction drawing reviews conducted during IRP SIs or RIs or during the BRAC EE. Recommendations for management of these additional oil/water separators were made during these reports. One focus of the AREE 61 study was to account for oil/water separators not covered under IRP studies.

3.2.10 NRC Licensing

There are currently no sources which require Nuclear Regulatory Commission (NRC) licensing at Fort Devens.

3.2.11 Pollution Prevention

Pollution prevention at Fort Devens is managed through the installation hazardous waste management program in accordance with AR 200-1, Chapter 6, and applicable federal and state regulatory requirements.

3.2.12 Mixed Waste

There is no mixed waste generated at Fort Devens.

3.2.13 Radiation

There is no radioactive waste generated at Fort Devens.

3.2.14 National Environmental Policy Act (NEPA)

A preliminary draft of the Disposal and Reuse EIS is anticipated to be available for review in April 1994.

3.2.15 Lead-based Paint

Because of the age of many of the buildings at Fort Devens, lead based paints are a concern. Many of the buildings have exposed painted surfaces, and some painted surfaces have been covered by aluminum or vinyl siding. Fort Devens has implemented a plan in accordance with U.S. Army guidance and MADEP regulations to address possible health risks associated with lead-based paint.

Phase I of the BRAC EE covers AREE 68 (Lead Paint). Under this study, ^{historical residential} all buildings will be inspected for paint condition, and limited sampling will occur to determine the lead content of the paint.

3.2.16 Medical Waste

All medical (infectious) waste generated at Fort Devens are incinerated off-base by a licensed contractor.

3.2.17 Unexploded Ordnance

No UXO are currently stored at Fort Devens.

3.2.18 Other Compliance Programs

There are no other compliance programs currently at Fort Devens.

3.3 Status of Natural and Cultural Resources Programs

Natural and cultural resources at Fort Devens are managed in accordance with AR 200-3 and 420-40, DoD Directive 4700.4 and 4710.1, and applicable federal and state regulations and statutes. Natural and cultural resource identification may be required prior to economic redevelopment and property reuse and is also considered during the environmental restoration remedy selection process so that accidental impacts to these resources can be prevented.

This section describes the current status of the natural and cultural resource program established at Fort Devens including identification and management of vegetation, wildlife, wetlands, and other preservation areas; rare, threatened and endangered species; and cultural resources.

3.3.1 Vegetation

Much of the area now occupied by the installation was formerly farmland, with an interspersed of pasture, woodlots, orchards, and some cropped fields. Much of the Fort is basically old fields and woodlots. These areas are now in various stages of regrowth. Plant communities have been modified and altered by vehicles and equipment, fires caused by marksmanship practice, and in some areas intentional mowing or burning. These activities have maintained a great diversity of vegetation types.

The majority of the lands in the Main Post and North Post are developed or urban cover types, with developed land, golf course, airfield, and filter beds comprising 56 percent of land types. Forested types occupy 36 percent of the land surface, with early-successional black cherry-aspen-hardwoods covering 2 percent, mixed oak-red maple-hardwoods 20 percent, white pine-hardwood mixes 11 percent, and white, red, and pitch pine occupying 2 percent. Shrub and herbaceous types each cover less than 2 percent of the land area within BRAC property.

3.3.2 Wildlife

The USFWS completed a Survey and Evaluation of Wetlands and Wildlife Habitat at Fort Devens to evaluate the potential of installation lands for possible inclusion within the adjacent Oxbow National Wildlife Refuge (NWR).

The importance of Fort Devens to a wide variety of wildlife species is due to the installation's diversity of habitat in various successional stages, its location adjacent to the Nashua River, and the amount and distribution of wetland present. Wildlife values have been well documented by the Fort's Natural Resources Office (NRO). Undeveloped lands of the installation are known to support migratory birds including waterfowl, wading birds, raptors, shorebirds, and passerines, resident mammals, reptiles and amphibians, and invertebrates. Installation lands support breeding activity for at least six state-listed rare species, and provide migration, feeding, and resting habitat for two federally-listed endangered species and at least 10 species of federal and state management concern. Additional rare species may be present. Wetlands along the Nashua River and the Slaterock, Ponakin, and Cranberry Brook drainages, and Area 1, have been identified on the Massachusetts Natural Heritage and Endangered Species Program's "Estimated Habitat Map of State-listed Rare Wetlands Wildlife."

Although Fort Devens has a NRO, there is an existing Cooperative Agreement between the Army, the Massachusetts Division of Fisheries and Wildlife, and USFWS concerned with the protection, development, and management of fish and wildlife resources on the installation. The agreement allows for research and management activities and provides for technical assistance by other Federal and state fish and wildlife experts.

3.3.3 Wetlands

The USFWS analyzed existing information from the Survey and Evaluation of Wetlands and Wildlife Habitat to evaluate the potential of including installation wetlands in the adjacent Oxbow NWR. An ongoing wetlands survey is being conducted by the USACE to further define and accurately map the wetlands of Fort Devens.

The extensive wetlands occurring along the Nashua River floodplain, including associated wetland tributary drainages and headwaters, have been listed as a priority for protection under both the North American Waterfowl Management Plan (NAWMP) and the Emergency Wetlands Resources Act of 1986 (EWRA). The Nashua River is a direct tributary of the Merrimack River system, and as such is also included in the USEPA's Priority Wetlands of New England listing (1987).

The majority of wetlands occurring on Fort Devens lands are classified within the Palustrine system, with some open water acreage in the Riverine and Lacustrine systems. Forested, shrub, and emergent wetlands on the east side of the Nashua River floodplain, within the Oxbow NWR, total slightly over 500 acres. There are an additional 190 acres of floodplain wetlands on the west side of the Nashua River, within Fort Devens Area 13, which are an integral part of the same system and exhibit an equally high degree of interspersion and diversity in the form of

cont
page 2
along 2
fig ref.

flooded oxbows and meander scars, emergent marsh, and mixed patches of shrub and forested wetland.

The important Nashua River floodplain wetlands extend north of Route 2 into the Main and North Post, and although mainly forested (294 acres) include similar high diversity in the form of small flooded oxbows, emergent marsh-dominated meander scars (20 acres), and shrub wetland (54 acres). Floodplain wetlands occurring along the Nashua River in Areas 1A, 1C, and 1 total 191 acres. Wetlands in Area 1 drain directly south into Oxbow NWR, and are hydrologically connected under the highway. Small isolated pockets of wetlands occur on the east side of the cantonment area, and include forest, shrub, and emergent dominated wetland, and two- ponds smaller than 10 acres each and the 25-acre Mirror Lake (102 acres total). Total acreage for wetlands occurring within Areas 2, 3, and near the airfield is 143 acres, the majority being forested (109 acres). Much of this forested and mixed forested-shrub wetland is either associated with the Nashua River or occurs along its immediate tributary, Nonacoicus Brook.

3.3.4 Designated Preservation Areas

There are currently no designated preservation areas for the BRAC property. The ongoing survey of the natural resources at Fort Devens has tentatively identified two or three areas with rare plant species which may become designated preservation areas in the future.

3.3.5 Rare, Threatened and Endangered Species

A Biological and Endangered Species Baseline Study was prepared in August 1993 by USACE. The study identified both federal and state endangered and threatened species. The study is periodically updated to reflect current conditions by the USACE.

No federally listed or proposed endangered species are known to occur in the Fort Devens area, with the exception of occasional transient endangered bald eagles or peregrine falcons. No federally threatened species are known to occur at the Fort. The blazing star (*Liatris borealis*) is a Class II federal candidate for rare plant species. The norther goshawk (*Accipiter bentilis*) and Blanding's turtle (*Emydoidea blandingi*) are Class II federal candidates for rare animal species.

The sole state endangered animal species documented at Fort Devens is the upland sandpiper (*Bartramia longicauda*). Four plant species have been identified as state endangered species: (1) a species of spike rusk (*Eleocharis ovata*); (2) Houghton's flatsedge (*Cyperus houghtonii*); (3) wild senna (*Cassia hebecarpa*); and, small bur-reed (*Sparganium minimum*). The cattail sedge (*Carex typhina*) is a state threatened species.

Six animal species of special state concern have been documented at Fort Devens: (1) blue-spotted salamander (*Ambystoma laterale*); (2) grasshopper sparrow (*Ammodramus savannarum*); (3) spotted turtle (*Clemmys guttata*); (4) wood turtle (*Clemmys insculpta*); (5) water shrew (*Sorex palustris*); and, (6) eastern box turtle (*Terrapene carolina*).

Although no unique and rare communities have been identified at Fort Devens, the presence and distribution of a number of species of rare and endangered flora and fauna at the installation may result in the state assigning Significant Habitat status to certain regions of Fort Devens. Of the numerous habitat types at Fort Devens, portions of the pitch pine/scrub oak habitat, black spruce bogs, grasslands within the Turner Drop Zone, portions of the Nashua River floodplain communities, and several disturbed sandy areas at Fort Devens may be classified as Significant Habitat.

3.3.6 Cultural Resources

The Historic Inventory Survey Report, released in May 1993, identified 80 buildings, one site, and one object that are 50 years or older, excluding all buildings previously surveyed as part of the Fort Devens Historic District and those building types included in the DoD WWII temporary buildings documentation program. The 80 buildings, one site, and one object were evaluated with reference to the U.S. Army System Classification and the National Register of Historic Places criteria of eligibility. No Category I (properties of major importance) or II (properties of importance) properties were identified. Fifty-one buildings, one site, and one object were identified as Category III (properties of minor importance) properties including three individual buildings, one site, one object, and 48 buildings within two historic districts. All 53 Category III properties were determined to meet the criteria of eligibility for inclusion on the National Register of Historic Places with one exception (see below). Twenty-nine Category IV (properties of little or no importance) properties were identified, and no Category V (properties detrimental to the significance of adjacent historic properties) properties were identified.

The final Archeological Inventory Survey was completed in November 1993. A total of 29 historical archaeological sites were identified on the Main Post and North Post as a result of the archaeological survey. On the main post, 22 historic sites were visually identified and recorded; 19 of these were field tested due to their location on property to be disposed and reused. On the North Post, seven historic sites were visually identified, recorded, and all were field tested due to their location on property to be disposed and reused.

Eighteen of the identified historic archaeological sites on property to be disposed and reused are assessed as having fair to very good and excellent integrity. The National Register eligibility of these sites has yet to be determined.

3.4 Environmental Condition of Property

In October 1992, Public Law 102-426, the Community Environmental Response Facilitation Act (CERFA) amended Section 120(h) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and established new requirements with respect to contamination assessment, cleanup, and regulatory agency notification/concurrence for federal facility closures. CERFA requires the federal government, before termination of federal activities on real property owned, to identify property where no hazardous substances were stored, released, or disposed of. These requirements retroactively affect the U.S. Army BRAC 88 and BRAC 91 environmental restoration activities, and are being implemented at BRAC 93 sites concurrently with their enhanced PAs. The primary CERFA objective is for federal

agencies to expeditiously identify real property offering the greatest opportunity for immediate reuse and redevelopment. Although CERFA does not mandate the U.S. Army transfer real property so identified, the first step in satisfying the objective is the requirement to identify real property where no CERCLA-regulated hazardous substances or petroleum products were stored, released, or disposed.

An investigation to identify the environmental condition of property in compliance with CERFA has been completed for Fort Devens. CERFA investigations included the following assessment procedures:

- ▶ Review of installation records;
- ▶ Interviews with current and past installation employees; and
- ▶ A visual site inspection of the installation.

During the CERFA investigation process, evidence was gathered that screened installation property into four categories, or parcel types. These categories are CERFA parcels, CERFA parcels with qualifiers, CERFA disqualified parcels, and CERFA excluded parcels as defined below.

An environmental condition of property map provided as Figure 3-2 identifies property at the installation based on these four parcel categories. The parcels are delineated using a 1-acre square grid for boundary definition. Where CERFA disqualified parcels and CERFA parcels with qualifiers have coincided, the overlapped area has been designated CERFA disqualified.

3.4.1 CERFA Parcels

CERFA parcels are those portions of the installation real property for which investigation reveals no evidence of storage for one year or more, release, or disposal of CERCLA hazardous substances, petroleum, or petroleum derivatives and no evidence of being threatened by migration of such substances. CERFA parcels also include any portion of the installation which once contained non-CERCLA hazards, including asbestos, unexploded ordnance (UXO), lead-based paint, and radionuclides, but has since been fully remediated.

3.4.2 CERFA Parcels with Qualifiers

CERFA parcels with qualifiers are those portions of the installation real property for which investigation reveals no evidence of storage for one year or more, release, or disposal of CERCLA hazardous substances, petroleum, or petroleum derivatives and no evidence of being threatened by migration of such substances. Parcels do, however, contain non-CERCLA related hazards including the presence of asbestos, UXO, lead-based paint, radionuclides, radon, or stored (not in use) PCB-containing equipment.



EXPLANATION

- Installation Boundary
- CERFA Parcel
- CERFA Parcel with Qualifier(s)
- CERFA Disqualified Parcel
- CERFA Excluded Parcel



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Environmental
Condition
of Property

Figure 3-2

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3.4.3 CERFA Disqualified Parcels

CERFA disqualified parcels are those portions of the installation real property for which there is evidence of a CERCLA hazardous substance, petroleum, or petroleum derivative storage for one year, release or disposal, or threatened by such release or disposal. CERFA disqualified parcels also include any portion of the installation containing a PCB release or disposal, any explosive ordnance disposal locations, any storage sites of chemical ordnance, and any areas in which CERCLA hazardous substances or petroleum products have been released or disposed and subsequently fully remediated.

3.4.4 CERFA Excluded Parcels

CERFA excluded parcels are those portions of the installation real property retained by the Department of Defense, and therefore not explicitly investigated for CERFA. CERFA excluded parcels also include any portion of the installation which have already been transferred by deed to a party outside the federal government, or by transfer assembly to another federal agency.

3.4.5 Suitability of Installation Property for Transfer by Deed

SARA Title I, Section 120 to CERCLA requires that any deed for federal property being transferred on which any hazardous substance was stored for one year or more, known to have been released, or disposed of, contains, to the extent such information is available on the basis of a complete search of agency files, the following information:

- ▶ A notice of the type and quantity of such hazardous substances,
- ▶ Notice of the time at which such storage, release, or disposal took place,
- ▶ A description of the remedial action taken, if any, and
- ▶ A covenant warranting that all remedial action necessary to protect human health and the environment with respect to any such substance remaining on the property has been taken before the date of such transfer, and any additional remedial action found to be necessary after the date of such transfer shall be conducted by the United States.

The U.S. Army has begun the identification of property suitable for transfer under CERCLA through the CERFA identification process (see Section 3.4.5). The CERFA process is screening a mechanism to identify those properties immediately transferable. These properties, designated CERFA parcels and CERFA parcels with qualifiers, have had no activities which could potentially preclude them from transfer under CERCLA.

CERFA disqualified properties consist of those which have evidence of CERCLA hazardous substance storage, POL storage, hazardous substance releases or POL releases. Under SARA Title I, Section 120 to CERCLA only those disqualified properties which have evidence of a hazardous substance release which has not been remediated and for which there is no "remedy

in
n place" are currently unsuitable for transfer to a non-federal entity. These properties typically represent a small portion of the CERFA disqualified property.

Figure 3-3 identifies CERFA parcels and CERFA parcels with qualifiers which are immediately transferable under CERCLA as well as CERFA disqualified parcels. The U.S. Army is continuing the suitable property for transfer identification process including the refinement of CERFA disqualified parcels into those suitable and unsuitable for transfer under CERCLA.

3.5 Status of Community Involvement

Community relations activities that have taken place at Fort Devens include the following:

- ▶ A Notice of Intent to prepare the Disposal and Reuse EIS was published in the Federal Register on November 23, 1992. USACE, New England Division, is preparing this document. Notice of a scoping meeting and a public comment period were published in several local newspapers and sent to a mailing list of 300. The scoping meeting was held February 10, 1993. Public comments received were addressed by the U.S. Army. Public workshops, which are publicly announced have been held each month at the Fort during the development of the EIS.
- ▶ Three organizations made requests for formal Cooperating Agency status, which was granted by the Army. The three organizations were the Massachusetts Government Land Bank, the U.S. Fish and Wildlife Service, and the four host communities of Ayer, Harvard, Lancaster and Shirley. The Army entered into a Memorandum of Agreement (MOA) with the three Cooperating Agencies. The MOA outlines the roles and responsibilities of each member and formulated a Fort Devens Disposal and Reuse EIS Primary Coordination Team, composed of one or more representatives from each agency.
- ▶ The Federal Bureau of Prisons (FBP) began discussions with the Office of Economic Adjustment (OEA), the Land Bank and the communities in January 1992 regarding the siting of a Federal prison complex at Fort Devens. During 1992, numerous meetings were held with local and state officials, the Massachusetts Government Land Bank (Land Bank), the Fort Devens Re-use Committee, local residents, the USACE, and the Joint Boards of Selectmen (JBOS) for the four communities surrounding Fort Devens.
- ▶ On July 2, 1993, the FBP published an Intent to Proceed with the project in the Federal Register. On July 20, 1993, a scoping session was held. The project has been delayed because the USEPA has questioned the FBP's right to proceed in a NEPA process separate from that of the rest of the base. The decision as to whether the FBP must participate in the installation-wide NEPA process or proceed with a separate EIS has not been made.



EXPLANATION

--- Installation Boundary

□ CERFA Parcel and CERFA Parcel with Qualifier(s) *

▨ CERFA Disqualified Parcel **

■ CERFA Excluded Parcel

* CERFA Parcels and CERFA Parcels with Qualifier(s) are areas suitable for current transfer under SARA Title I, Section 120 of CERCLA.

** CERFA Disqualified Parcels are areas with current or historic POL/Hazardous Substance Storage and/or releases. Only unremediated hazardous substance release sites or those without a remedy in place are unsuitable for transfer to a non-federal entity under SARA Title I, Section 120.



0 1750 3500
FEET

Suitability of
Property for
Transfer

Figure 3-3

Ft. Devens, Massachusetts

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- ▶ Massachusetts Environmental Policy Act (MEPA) Process. On June 30, 1992, the Land Bank submitted an Environmental Notification Form (ENF) to the Massachusetts Executive Office of Environmental Affairs (EOEA) MEPA Unit for the redevelopment of Fort Devens. In the ENF, the Land Bank requested that the project be designated as a "Major and Complicated Project." This designation will allow coordination of the MEPA process with the NEPA process, incorporation of additional parcels if they are surplus by the DoD, formation of a Citizen's Advisory Committee (CAC), and early review of certain reuse activities. The ENF was published in the Environmental Monitor on July 8, 1992, including the announcement of a comment period ending July 29, 1992. On August 26, 1992, the Massachusetts Secretary of Environmental Affairs "the Secretary" issued a certificate designating Fort Devens as a Major and Complicated Project.
- ▶ On February 8, 1993, the Secretary issued a Certificate announcing that Fort Devens closure and reuse programs will require the preparation of an Environmental Impact Report (EIR). The EIR must include an installation re-use plan, an evaluation of existing conditions on the property, an assessment of potential impacts from the project to existing resources, and mitigation of those impacts.
- ▶ The Draft and Final NEPA EIS's prepared under the Federal NEPA process will be submitted to the Secretary as Draft and Final MEPA EIRs for the project. These documents will be referred to by the Secretary as the Draft and Final Master EIRs. The Fort Devens Redevelopment CAC was formed to provide input to the environmental review of the project.
- ▶ A re-use planning partnership was created between the Joint Boards of Selectmen of Ayer, Harvard, Lancaster and Shirley, and the Land Bank. A series of public meetings have been held by this partnership to develop a re-use plan for Fort Devens, which will be incorporated into the Draft and Final versions of the EIS/EIR.
- ▶ Legislation was passed on January 5, 1994 by the Massachusetts Legislature to creating a "Devens Enterprise Commission," which will serve among other things as a one-stop permitting board for developers beginning in 1995 on the former Fort Devens Army Base.
- ▶ As part of the ENF for the redevelopment of Fort Devens, the Land Bank requested early approval for the re-use of the existing railroad facilities. The public comment period for this project ran concurrently with the comment period for the ENF as a whole. A letter from the secretary dated February 8, 1993, required that impacts from this proposed internodal facility be addressed as part of the EIR.

- Community Relations Plan (CRP). An U.S. Army consultant prepared a draft, draft final and final community relations plan for Fort Devens as required by CERCLA, the DOD's Installation Restoration Program (IRP) and the FFA. There was a thirty-day public comment period for the draft final version. Comments from members of the Technical Review Committee (TRC) (see below) and the public were incorporated into the final CRP in November 1991. The CRP has the following specific objectives:
- Ensure the public understands that personal and community health and interests are of paramount concern to the U.S. Army.
 - Inform and educate local residents, on-post employees, and local officials of the RD/RA process.
 - Provide local residents, on-post employees, and federal, state, city, and local regulatory officials an opportunity to review and comment on the studies at Fort Devens and on suggested remedial action alternatives and decisions.
 - Keep the U.S. Army sensitive to and informed about changes in community concerns, attitudes, information needs, and activities regarding Fort Devens and use their concerns as factors in evaluating modifications of the CRP as necessary to address these changes.
 - Effectively serve the community's information needs and address citizen inquiries through prompt release of factual information through the media and other information dissemination techniques.
 - Effectively respond to the needs of the media by providing timely response to inquiries and requests for interviews and briefings, thereby resulting in fair and accurate reporting of activities at Fort Devens.
 - Create and maintain, through an active public affairs program, a climate of understanding and trust with the aim of providing information and opportunities for comments and discussion.
 - Ensure that appropriate federal, state, city, and local elected officials are informed of results of the investigations and recommended remedial actions.
 - Provide a single entity for dissemination of information for matters regarding the progress of the contamination assessments, remedial actions, and other decisions at Fort Devens.
 - Identify issues and potential areas of concern and develop and implement objective means to avoid or resolve conflict.

- ▶ **Technical Review Committee.** The TRC was formed in 1991 as required by SARA Title 211 and Army Regulation 2001. The first meeting was held on March 21, 1991 at Fort Devens. Membership consists of representatives from Fort Devens, USAEC, EPA, DEP, other federal, state, regional and local agencies, and concerned community groups. The meetings have been held during the daytime on a quarterly basis and are open to the public. The TRC commented on both draft and draft final versions of the CRP. TRC members are given the same 45-day comment period on documents as the regulatory agencies.
- ▶ **Fact Sheets.** Fact sheets are distributed during public meetings and to anyone requesting information.
- ▶ **Public Notification.** At certain key events during the restoration process and reuse planning process at the Fort Devens, public notices are placed in local newspapers and public service announcements are made available to local radio and television stations.
- ▶ **Information Repositories.** Information repositories were set up in the main town libraries of the four towns surrounding Fort Devens: Ayer, Lancaster, Harvard and Shirley. An additional repository was established at the Davis Library on Fort Devens. All reports received at the MADEP office from the Army are also available for public review by appointment.
- ▶ **Administrative Record.** An administrative record file is kept by the Fort Devens EMO in accordance with CERCLA requirements. Administrative record files are also kept by the USEPA at the USEPA Region I Records Center in Boston, and by the DEP in the Central regional office. An administrative record file index will be drafted during the coming year and copies will be maintained at Fort Devens, DEP, and USEPA. The index will be updated as needed.
- ▶ **Mailing List.** Mailing lists have been developed by the Army, USEPA, and DEP consisting of parties interested in and involved with the Fort Devens cleanup. These lists are updated as needed.
- ▶ **Public Information Meetings.** Public information meetings are planned and scheduled to solicit input into the restoration and reuse planning programs occurring at Fort Devens.
- ▶ **Formal Public Comment Periods.** Thirty-day formal public comment periods are held by the Army for all proposed remediation action plans. Responsiveness summaries are prepared by the Army following comment periods. The responsiveness summaries address and respond to the comments received during the comment periods. In addition to the formal comment periods held for proposed plans, informal comment periods are held on all primary documents issued during the study and cleanup phases of the process. These comment

periods are held for 20 days, during which time both written and oral comments are accepted.

- ▶ **Public Hearings.** Public hearings are held by the Army during the formal comment periods (see above) to record oral comments. A copy of the transcript of the public hearing is made available in the information repositories.

CHAPTER 4

► INSTALLATION-WIDE STRATEGY FOR ENVIRONMENTAL RESTORATION ◀

This chapter describes and summarizes the installation-wide environmental restoration and compliance strategy for Fort Devens. Prior to the official closure date of July 1997, IRP projects are underway to identify, characterize, and remediate environmental contamination at Fort Devens. With the closure announcement, the installation's strategy not only includes supporting the active U.S. Army mission, but also includes responding to disposal and reuse considerations.

The strategy for determining the most effective response mechanism for contaminant sources and contaminated areas during the early stages of the restoration process at the fort has been performed on a case-by-case basis by the BCT. The BCT has developed a comprehensive strategy to identify the appropriate regulatory programs applicable to the areas of contamination discovered during the restoration program.

4.1 Zone/OU Designation and Strategy

This section of the BCP discusses the zones and OUs developed to optimize implementation of cleanup strategies.

historically Zones ^{were} define an installation's investigative strategy. Zones are geographically contiguous areas amenable to management as a single investigative unit. They are tools for organizing and defining areas of investigation. Zones can be used to group multiple sites and environmental data collected during one or more investigations into related geographic areas for detailed mapping, and facilitate the development of conceptual models of sources, migration pathways, and receptors. Zones are distinct from OU response actions.

Based on Reuse OUs define an installation's remedial strategy. They are derived from an evaluation of hydrogeologic and chemical analytical data within an investigative zone, or by comparing data between zones. OU types may be based on geographic area, common media (soil, groundwater, surface water, other), common treatment technology, priorities, or schedules. Properly defined, OUs establish a logical sequence of discussions that address contamination releases in a comprehensive fashion.

4.1.1 Zone Designations

reuse parcels
Five
The SAs, AOCs, and AREEs have been grouped into six primary zones to facilitate closure and realignment activities. Tables 4-1A and 4-1B shows each zone and their associated SAs, AOCs and AREEs. These zones are as follows:

Reuse

TABLE 4-1A. RELATIONSHIP BETWEEN IRP SITES (STUDY AREAS AND AREAS OF CONTAMINATION), ZONES, AND PARCELS

Zone	Parcel	IRP Sites
North Post		9, 19, 20, 21, 30, 31, 47, 50
Industrial		2, 3, 4, 5, 16, 18, 22, 23, 29, 32, 33, 34, 35, 38, 40, 43A, 44, 48, 52, 57
Willow Brook		43B, 43C, 43D, 43E, 43F
Mirror Lake		1, 17, 24, 37, 43G, 43H, 43I, 43J, 43K, 49, 56
Nashua River		10, 11, 13, 36, 43L, 43M, 43N, 43P, 43Q, 43R, 43S, 45, 51, 54, 55, 58, 59

TABLE 4-1B RELATIONSHIP BETWEEN ZONES, PARCELS, AND FACILITY-WIDE AREAS REQUIRING ENVIRONMENTAL EVALUATION

Zone	Parcel	AREE
North Post		61Y, 61AG, 63AQ, 69I, 69J, 69AE
Industrial		61A, 61B, 61D, 61E, 61X, 61Z, 61AA, 61AB, 61AC, 61AD, 61AE, 61AH, 61AO, 61AU, 61AY, 61AX, 61BD, 61BE, 61BF, 61AV, 63A, 63B, 63D, 63E, 63F, 63G, 63M, 63N, 63AP, 63AW, 66A, 66B, 69D, 69M, 69O, 69Q, 69S, 69T, 69X, 69Y, 69Z, 69AA, 69AB, 69AD, 69AG, 69AH, 69AI, 69AL, 69AN, 69AR, 69AS, 69AT, 69AU,
Willow Brook		61C, 61F, 61AK, 61AL, 61AI, 61AQ, 61AR, 61AS, 61AW, 61AZ, 61BA, 63AT, 66D, 66F, 69R, 69W, 69AC, 69AF, 69AO
Mirror Lake		61G, 61H, 61I, 61J, 61K, 61L, 61M, 61N, 61O, 61W, 61AF, 61AJ, 61AM, 61BG, 63H, 63I, 63J, 63K, 63AM, 63AN, 63AO, 63AU, 63AV, 63AX, 69A, 69C, 69N, 69P, 69V, 69AP, 69AV
Nashua River		61P, 61Q, 61R, 61S, 61T, 61U, 61V, 61AN, 61AT, 61BB, 61BC, 63C, 63L, 63O, 63P, 63Q, 63R, 63S, 63T, 63U, 63V, 63W, 63X, 63Y, 63Z, 63AA, 63AB, 63AC, 63AD, 63AE, 63AF, 63AG, 63AH, 63AI, 63AJ, 63AK, 63AM, 63AR, 63AS, 63AY, 63AZ, 63BA, 66C, 66E, 69B, 69E, 69F, 69H, 69K, 69L, 69AJ, 69AK, 69AM, 69AQ

historical

- ▶ North Post Zone
- ▶ Industrial Zone
- ▶ Willow Brook Zone
- ▶ Mirror Lake Zone
- ▶ Nashua River Zone

9 - RI
57 - RI
43G - RI
43J -

69 W
63AX

4.1.2 OU Designations

Five Nine

Five OUs are currently identified at Fort Devens Main Post and North Post. These OUs are shown in Table 4-1B and include:

- ▶ Shepley's Hill Landfill (AOC 5, & 18) - This single media OU includes the groundwater in and around the Shepley's Hill Landfill.
- ▶ Plow Shop and Grove Ponds - This single media OU includes the sediments in the Plow Shop and Grove Ponds.
- ▶ Cold Spring Brook Landfill (AOC 40) - This is a multimedia OU that includes the groundwater, sediments and solid waste associated with the Cold Spring Brook Landfill.
- ▶ Cannibalization Yard and TDA Maintenance Yard (AOC 44 & 52) - This single media OU includes the soils in the vadose zone in both the cannibalization and TDA maintenance yards.
- ▶ DRMO Yard (AOC 32) - This is a multimedia OU that includes the groundwater in the eastern portion and soils in the areas in and around AOC 32 (DRMO Yard).
- ▶ POL Storage Area (43A) - This is a multimedia OU that includes the groundwater in the western portion of the DRMO Yard (AOC 32) and in and around AOC 43A, and soils in the areas in and around AOC 43A (POL Storage Area).
- ▶ Landfill No. 7 - Near Lovell Street (AOC 11) - This is a multimedia OU that includes the groundwater, soils, sediments, and surface water in the area in and around AOC 11.

→ *South Post GW - OU. (AOC 25, 26, 27 & SPIA)*
 4.1.3 Sequence of OUs → *AOC 41 - multi media -*

The OU cleanup sequence at the installation is summarized in Table 4-2. Figure 4-1 identifies the timeline for the generation of primary documents necessary to complete OU cleanup actions.

The schedule was developed using a critical path analysis method with the following components:

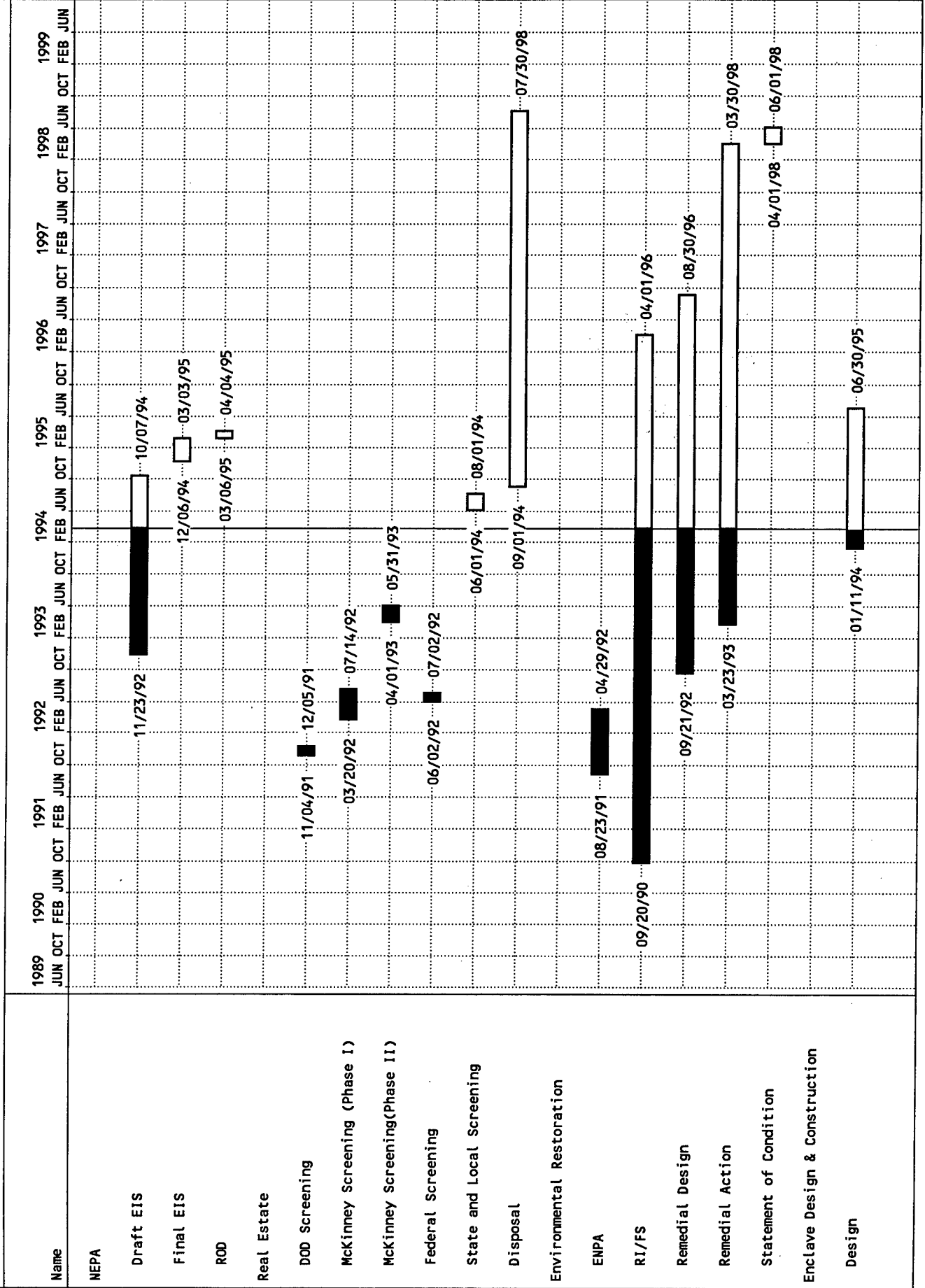
Check out

TABLE 4-2. CLEANUP SEQUENCE

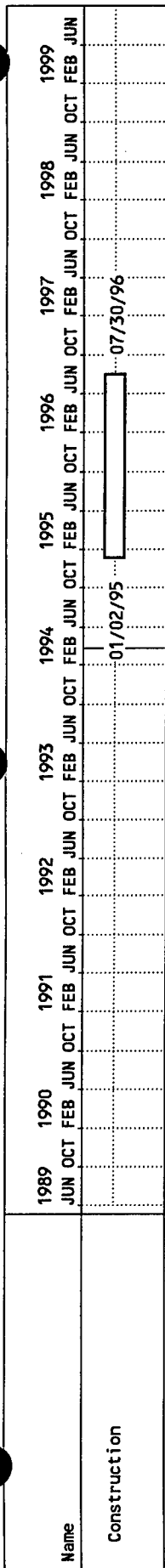
Reuse Parcel	OU	Environmental Risk	Reuse Priority	Cleanup Sequence	Reconcile Comments
↓ R A	Cannibalization Yard & TDA Maintenance Yard 4A+52	TBD	TBD	1	NA
↓ A	Shepley's Hill Landfill 5, 18 Groundwater	TBD	TBD	2	NA
↓ NA 053 J	Plow Shop Pond	TBD	TBD	TBD	NA
↓ 053 J	Cold Spring Brook Landfill	TBD	TBD	2	NA
↓ PA A	DRMO Yard	TBD	TBD	3	NA
↓ PA A	POL Storage Area	TBD	TBD	3	NA
↓ NR J	Lovell Street Landfill	TBD	TBD	5	NA
Z	SPLA GW	"	"	6	NA
Z	AOC 41	"	"	6	NA

PROJECT: Fort Devens
 MANAGER: James Chambers
 CURRENT DATE: 04/04/94
 AS OF DATE: 04/04/94

Figure 4-1



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01/02/95 07/30/96



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- ▶ **Critical.** Critical jobs are those in which any extension in their duration will cause an equivalent delay in the project. Often referred to as the critical path.
- ▶ **Noncritical.** Noncritical jobs are usually subtasks required to accomplish the critical job.
- ▶ **Baseline.** A set of "original" schedule dates that can be compared with the current schedule to determine if the project has slipped.
- ▶ **Completed Duration.** A measure in time periods of the portion of a job that is completed. A corresponding value will be displayed in the percent complete field and remaining duration field after the completed duration value has been entered.
- ▶ **Milestone.** A project event that represents a checkpoint, a major accomplishment, or a deliverable result.
- ▶ **Total Float.** The total length of time that a noncritical job can be delayed before it causes the project or a critical job to slip or causes a job to not meet its target date.
- ▶ **Free Float.** The length of time a noncritical job can be delayed without affecting another job.
- ▶ **Delay.** A waiting period that prevents the job from starting at its earliest possible start time.
- ▶ **Conflict.** The amount of time a job overruns its target date. This is also called "negative float".

The strategy for OU development has been developed by the Fort Devens BCT. The OUs associated with Shepley's Hill Landfill and Cold Spring Brook Landfill (AOCs 4, 5, 18, and 40) were identified in the MEP as the highest priority (Priority 1A) for remediation. As such, these sites proceeded directly to RI without a SI. All other OUs have been identified through the SI process. As discussed in Chapters 3 and 6, the SI data package identifies sites recommended for RI/FS. The SIs which generate the SI data package were also done on a priority basis, hence the OUs resulting from these follow the same general sequence as that outlined in the MEP. The exception to this is the Barnum Road Maintenance Yards OU, which was accelerated from the SI stage and is expected to have the first ROD signed.

The following general strategy is applied to the sequence of investigation/study of all OUs:

- ✓ If applicable, removal actions for source control will be implemented as early as possible. One example of this is at the DRMO yard, where PCB contaminated scrap was removed before the start of the RI.

- ✓ For a single source with multi-media OUs, remediation strategies are developed for the primary pathway before the secondary pathway. For example, At Shepley's Hill Landfill, the landfill is thought to be contaminating groundwater, which in turn is contaminating nearby Plow Shop Pond. In this case, the groundwater OU is sequenced before the pond OU, to ensure source control is accomplished before the receiving water body is remediated.
- ✓ The general sequence between other OUs is based upon the associated SA/AOC priority sequencing in the MEP. For example, an OU from groups 1B is sequenced before an OU from groups 3, 5 and 6.

The sequence of OUs are shown in Table 4-1B. The sequence is based on the most current date of the Proposed Plans and RODs submission for each OU. For example, the first Proposed Plan and ROD is expected for the AOC 44 and 52 OU, the second Proposed Plan and ROD is expected for the Shepley's Hill and Cold Spring Brook Landfills OUs, etc.

4.1.4 Environmental Restoration Early Actions Strategy

The Site Investigation (SI) Data Package concept was developed to accelerate the early action decision making process. The purpose of the SI Data Package is to evaluate the absence or presence of contamination and, if present, the potential pathways of contaminant migration and potential risks to human and ecological receptors at each SA. The SI Data Package will provide tabulated chemical data, field observations, and interpreted data for a preliminary site evaluation. Based on the results of the preliminary site evaluation, one of the following recommendations will be made:

- ▶ **No Further Response Planned (NFRAP):** Once a SA has been identified as requiring no further action, a NFRAP decision document will be prepared and submitted for the Fort Devens' Commander and USEPA signature and approval.
- ▶ **Initiate an Immediate Removal or Interim Action:** Once a SA has been identified as requiring an immediate removal or interim action, USACE, NED will be notified by Fort Devens to start the removal action. Once the removal action has been completed and if the SA has no significant residual contamination, a NFRAP document will be prepared and submitted for approval.
- ▶ **Perform a Supplemental SI or RI/FS:** In some cases, supplemental SI work may be recommended for a particular SA to fill data gaps. The results of the supplemental SI will be used to determine if preparation of a NFRAP document; a removal/interim action; or an RI/FS is needed.

The SI Data Package is usually submitted 30 to 45 days after the chemical data is available in the Installation Restoration Database Management Information System (IRDMIS).

The early actions currently planned as part of the Fort Devens compliance program to remove contamination sources and reduce risk posed by releases or potential releases and identified in Table 4-3.

4.1.5 Remedy Selection Approach

Remedies will be selected in accordance with statutory and NCP criteria. The Fort Devens Project Team will involve all parties who have an impact on the remedies selected at the fort in the remedy selection process. Particular attention will be given to the following topics during the evaluation of alternatives:

- ▶ **Applicable or Relevant and Appropriate requirements (ARARs):** Applicable requirements for anticipated remedial actions will be identified by the Project Team for each OU separately. The effectiveness of alternatives in reducing concentrations of contaminants to chemical-specific ARARs will be evaluated.
- ▶ **Land Use/Risk Assessment:** Risk assessment protocols will incorporate future land use in exposure scenarios.
- ▶ **Basewide Treatment Facility:** A Centralized Soils Treatment Facility (CSTF) will be constructed as part of the CERCLA remediation at the Barnum Roads Maintenance Yard OU (AOCs 44 and 52). The purpose of the facility is to treat petroleum-contaminated soil through windrow composting. If necessary, this facility will also be available to treat other petroleum-contaminated materials at Fort Devens. Other treatment alternatives, including cold emulsion batching, will also be considered.
- ▶ **Applicable Remedies:** Focused FSs will be utilized to accelerate remedy selection at sites where contaminants are restricted to a single media. Additionally, the presumptive remedy approach will also be used, where applicable. At complex and/or multimedia sites, the standard evaluation of remedial alternatives through a detailed FS approach will occur. As defined in the FFA, this process involves two secondary documents and one primary document. First, an Initial Screening of Alternatives (ISA) will be published. This document discusses alternatives considered for remediation of the site and describes those which may be feasible at the OU. Under the Fort Devens Acceleration Plan, this document is published at the same time as the draft RI report. Next, a Detailed Screening of Alternatives (DSA) is published. This document reviews the alternatives retained for further evaluation after the initial screening and selects those which may be appropriate for the site and should be considered in the FS report. This document is published before the FS report. Finally, the FS report considers the retained alternatives and identifies preferred remedial alternatives. Selection of the remedial alternative occurs in the PP.

Confirm N/ NED

TABLE 4-3. ENVIRONMENTAL RESTORATION PLANNED EARLY ACTIONS

Site	Action	Objective	Time Frame
AREE 61 - 61K, Former Motor Pool	Excavation of contaminated soil	Removal of contaminant source	Spring 1994
AREE 61 - 61M, Former Motor Pool	Excavation of contaminated soil	Removal of contaminant source	Spring 1994
AREE 61 - 61W, Former Motor Pool	Excavation of contaminated soil	Removal of contaminant source	Spring 1994
AREE 66 - 66C, PCB Transformer	Removal	Removal of contaminant source	Spring 1994
AREE 69 - 69A, Spill	Excavation of contaminated soil	Removal of contaminant source	Spring 1994
SA 43O	Excavation of contaminated soil	Removal of contaminant source	Spring 1994
SA 43H	Excavation of contaminated soil	Removal of contaminant source	Spring 1994
SA 43I	Excavation of contaminated soil	Removal of contaminant source	Spring 1994
SA 33	Excavation of contaminated soil	Removal of contaminant source	Spring 1994
SA 34	Excavation of contaminated soil	Removal of contaminant source	Spring 1994
SA 35	Excavation of contaminated soil	Removal of contaminant source	Spring 1994
SA 36	Excavation of contaminated soil	Removal of contaminant source	Spring 1994
SA 37	Excavation of contaminated soil	Removal of contaminant source	Spring 1994
SA 57	Excavation of contaminated soil	Removal of contaminant source	Spring 1994
SA 9	Solid waste closure	Close in accordance with RCRA Subtitle D	Spring 1994
SA 12	Solid waste closure	Close in accordance with RCRA Subtitle D	Spring 1994
SA 13	Solid waste closure	Close in accordance with RCRA Subtitle D	Spring 1994
SA 6	Solid waste closure	Close in accordance with RCRA Subtitle D	Spring 1994

- **Soil Remedies:** Fort Devens has developed General Management Procedures for Excavated Waste Site Soils. These procedures were developed to address management of petroleum-contaminated soils at Fort Devens. The procedures focus upon the re-use of soil waste derived during remediation. Soil is classified in four general categories:

- Category A - Soils may be re-used anywhere at Fort Devens and contain contaminant concentrations at or below background.
- Category B - Soils may be re-used at Fort Devens for industrial purposes.
- Category C - Soils can only be placed under the final cover of an approved solid waste landfill.
- Category D - Soils cannot be re-used at Fort Devens under any circumstances without treatment.

The General Management Procedures for Excavated Waste Site Soils provide only general guidance for the re-use of soils. For individual sites, treatment and characterization requirements are determined using the site-specific. Excavated Soils Management Plan (ESMP). This plan will specify sampling to characterize soils. After characterization, the soil may be immediately re-used following the General Management Procedures or undergo treatment prior to re-use. For example, after excavation and characterization, a soil/pile is determined to be Category C. The ESMP may direct placement under the final cover of an approved solid waste landfill. If this is not possible, then treatment, preferentially at the CSTF, will be directed. This treatment would be to either the Category A, B-1, or B-2 level, depending upon the amount of contaminant concentration reduction achieved.

4.2 Compliance Strategy

This section describes the strategies for addressing compliance-related environmental issues at Fort Devens prior to installation closure and/or property transfer. These environmental compliance strategies have been developed to ensure that installations are compliant with federal and state regulatory programs, DoD, and U.S. Army directives and regulations throughout the BRAC process.

(Presently, no early actions are planned as part of the Fort Devens compliance program to remove contamination sources and reduce risk posed by releases or potential release. Any future early actions will be identified in Table 4-4.

Table 3-6 ?
What about →

TABLE 4-4. ENVIRONMENTAL COMPLIANCE PLANNED EARLY ACTIONS

Site	UST No.	Action	Objective	Time Frame
	There are currently no environmental compliance early actions planned at Fort Devens. Future changes will be reflected here.			

4.2.1 Storage Tanks

A BRAC UST management plan will evaluate AREE 62 - USTs existing and AREE 64 - ASTs. Removal of USTs will be accomplished in accordance with the Fort Devens UST Removal Protocol prior to closure.

4.2.2 Hazardous Materials/Waste Management

The installation's Hazardous Waste Storage Facility is permitted under RCRA Subtitle B. This facility will require closure under an approved closure plan prior to closure of the installation. Satellite and 90 day storage facilities, monitored by the EMO, will be surveyed prior to closure to ensure no hazardous materials is left on BRAC property.

4.2.3 Solid Waste Management

The installation's permitted solid waste municipal landfill has closed under an approved closure plan. Currently, the installation has contracted solid waste pick-up and disposal to an outside contractor. It is anticipated that this will be the continued method of solid waste management in the reserve enclave after closure.

4.2.4 Polychlorinated Biphenyls (PCBs)

The installation has removed all PCB transformers with greater than 500 ppm PCB from service. The installation is currently undergoing a program to systematically replace all PCB-contaminated transformers (containing 50 - 500 ppm PCB) prior to closure.

4.2.5 Asbestos

The AREE 65 portion of the BRAC EE will include an installation-wide assessment of asbestos. Further testing of most of the buildings suspected to contain asbestos will be conducted within the next four months. Decisions to remove or encapsulated the ACM will based on the results of the tests. The asbestos management procedures will be updated based upon the results and will include abatement operations and maintenance procedures.

4.2.6 Radon

Fort Devens has an ongoing radon management and abatement program which will continue until installation closure.

4.2.7 RCRA Facilities (SWMUs)

The RCRA Part B permit for the Hazardous Waste Storage Facility at Building 1650 will be closed prior to Fort closure in accordance with RCRA requirements. At that time a closure plan will be developed.

4.2.8 NPDES Permits

Fort Devens is participating in a study to obtain a U.S. Army "group" NPDES permit. Further strategy will be developed as the status of the permit process is clarified.

4.2.9 Oil/Water Separators

Oil/water separators will continue to undergo routine maintenance by the installation. Post closure maintenance will be the responsibility of the Reserve Enclave manager.

4.2.10 NRC Licensing

There are no NRC licenses for Fort Devens; therefore, there are no compliance requirements or strategies under this program for the installation.

4.2.11 Pollution Prevention

Fort Devens will continue to utilize their pollution prevention program at the installation until closure. The possibility of recycling any materials during remedial activities will be considered during the design phase.

4.2.12 Mixed Waste

There is no mixed waste generated at Fort Devens; therefore, there are no compliance requirements or strategies under this program for the installation.

4.2.13 Radiation

There are no radioactive wastes generated at Fort Devens; therefore, there are no compliance requirements or strategies under the program for the installation.

4.2.14 National Environmental Policy Act (NEPA)

Fort Devens is in the process of completing the Disposal and Reuse EIS. Currently, Fort Devens does not have plans to produce additional NEPA documentation.

4.2.15 Lead-Based Paint

All buildings are scheduled to be inspected to determine the paint condition, and limited sampling will occur to determine the lead content of the paint. Based upon the results, recommendations for operations and maintenance as well as property disposal will be made. Any future actions will incorporate both U.S. Army guidance and the MADEP regulations addressing lead-based paint. Should an existing building be used as a homeless shelter, the U.S. Army will evaluate the impacts of lead-based paint within that building.

4.2.16 Medical Waste

All medical (infectious) waste will continue to be incinerated off-site by a licensed contractor, until closure.

4.2.17 Unexploded Ordnance

No unexploded ordnance was identified at the BRAC property at Fort Devens; therefore, there are no compliance requirements or strategies under this program for the installation.

4.2.18 Other Compliance Programs

At the present time, no other compliance programs have been identified.

4.3 Natural and Cultural Resources Strategy(ies)

This section discusses the strategies for natural and cultural resource programs at Fort Devens developed to manage these resources throughout the BRAC cleanup and installation closure process.

4.3.1 Vegetation

Fort Devens will continue to manage the existing vegetation and landscape until closure.

4.3.2 Wildlife

The Survey and Evaluation of Wetlands and Wildlife Habitat identified the BRAC property as containing wildlife habitats recognized as a priority for protection at both the Federal and State levels. The area includes a diversity of habitat types and unique communities, and supports many species of Federal and State management concerns. Fort Devens will continue to maintain the existing wildlife habitats until closure.

4.3.3 Wetlands

Fort Devens has extensive wetlands which would be subject to permitting through Section 404 of the Clean Water Act if dredging or filling activities were required. The U.S. Army will continue to comply with wetlands regulations through disposal of the property.

4.3.4 Designated Preservation Areas

Fort Devens will integrate into the reuse plan any areas that may be identified as designated preservation areas.

4.3.5 Rare, Threatened and Endangered Species

Fort Devens will continue to maintain the existing ecosystems which support rare, threatened, and endangered plant and animal species until closure.

4.3.6 Cultural Resources

The Historic Inventory Survey recommends further study and evaluation to prepare National Register of Historic Places documentation for two individual properties: the Red Cross Building and the Garage; for one site, the Cemetery (individually or as part of the Fort Devens Historic District); for the one object, the Sniper Tree; and for the two historic areas, the Quartermaster Area and the Civilian Military Training Camp Area. Additional research has been recommended to establish a national context for the Quartermaster Area and the Civilian Military Training Camp Area. The Willard Farm was evaluated as potentially eligible for National Register listing as a farmhouse with an associated archaeological site component, pending the results of ongoing archaeological investigations. Modern buildings, sites, structures, and objects should be reevaluated as they reach 50 years of age. Further study and evaluation activities will be determined by the USACE, State Historic Preservation Officer (SHPO), and Advisory Council for Historic Preservation (ACHP).

The Archaeological Inventory Survey recommends further research to assess site eligibility for the National Register of Historic Places of the 11 identified prehistoric sites and 18 historic sites on BRAC property. Avoidance and preservation in place is recommended for these sites. Further study and evaluation activities for these sites will be determined by the U.S. Army, USACE, SHPO, and ACHP.

4.3.7 Other Resources

At the present time, no other resource issues have been determined.

4.4 Community Involvement/Strategy

Fort Devens has adopted the following strategy to support a proactive community relations program:

- ▶ The complete Draft EIS, scheduled to be released in July 1994, in order to allow incorporation of the local reuse plan which is currently being developed
- ▶ Continue coordination with the Cooperating Agency in determining the future land uses of Fort Devens

- ▶ Provide support in determining the process the FBP must follow to meet NEPA requirements. Once the involved parties have come to an agreement, future strategy will be developed
- ▶ Continue coordination with the Fort Devens Redevelopment in the CAC preparations of the EIR.

Fort Devens will continue to implement the CRP by ensuring the following:

- ▶ Updating of the existing CRP
- ▶ Maintenance of the information repositories, administrative record, and mailing lists
- ▶ Continuing to provide information and support in the development of fact sheets, public notifications, public information meetings, and public hearings
- ▶ Remaining active in the TRC.

CHAPTER 5

► ENVIRONMENTAL PROGRAM MASTER SCHEDULES ◀

This chapter presents the Fort Devens Master Schedules of anticipated activities in the installation's environmental programs. These schedules are simplified from detailed network and operational schedules developed to support OU-specific work plans and compliance agreements. Environmental restoration activities are graphically summarized in Figure 5-1. Compliance activities are summarized in Figures 5-2 and Figure 5-3. Natural and cultural resource activities are summarized in Figure 5-4. Each of these schedules displays the critical path analysis for the respective installation program. Components in each analysis include critical and noncritical path, baseline, completed duration, milestones, float, delay and conflict. These components are defined in Section 4.1.3.

5.1 Environmental Restoration Program

This section presents response schedules and outlines fiscal year requirements for Fort Devens's environmental restoration program.

5.1.1 *Response Schedules*

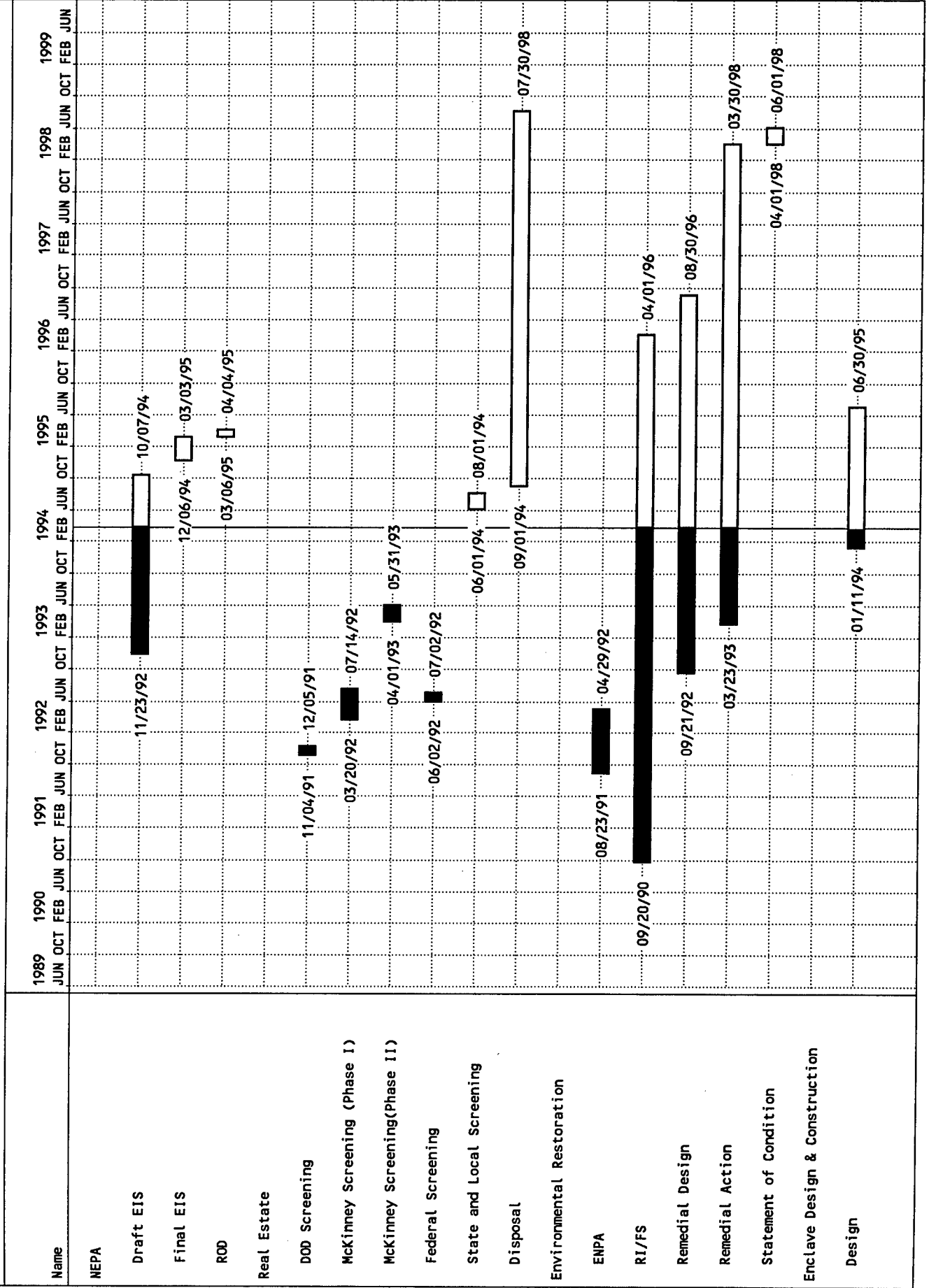
The installation's ability to meet the milestones shown on the schedule in Figure 5-1 hinges on (1) the successful completion of conceptual models in OUs under investigation, and (2) the preparation of draft RI reports and baseline risk assessments (i.e., not impeded by discovery of additional sources in the OUs). The schedule detailed in Figure 5-1 is based upon the following general time periods between documents:

- ▶ Comments on all primary and secondary documents are submitted within 45 days of publication of the document. Comment response packages are submitted either within 45 days of receipt of comments or concurrently with the final version of a document.
- ▶ The SI Data Package (which replaces the draft SI Report, a primary document) is published no later than 120 days after the collection of the last Round I groundwater sample.
- ▶ The final SI report (a primary document) is published 120 days after collection of the last Round II groundwater sample.
- ▶ The Risk Assessment Approach Plan (a secondary document) is published no later than 90 days prior to the draft RI report.

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PROJECT: Fort Devens
 MANAGER: James Chambers
 CURRENT DATE: 04/04/94
 AS OF DATE: 04/04/94

Figure 5-1



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Name	1989		1990		1991		1992		1993		1994		1995		1996		1997		1998		1999	
	JUN	OCT	FEB	JUN	OCT	FEB	JUN	OCT	FEB	JUN	OCT	FEB	JUN	OCT	FEB	JUN	OCT	FEB	JUN	OCT	FEB	JUN
Construction																						

01/02/95 07/30/96

critical

completed

noncritical

baseline

total float

free float

milestone

delay










conflict

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PROJECT: Fort Devens
 MANAGER: James Chambers
 CURRENT DATE: 04/04/94
 AS OF DATE: 04/04/94

Figure 5-2

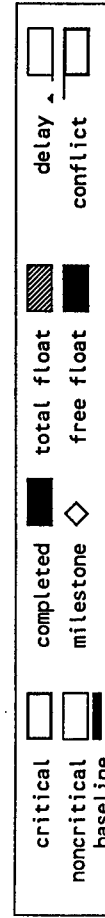
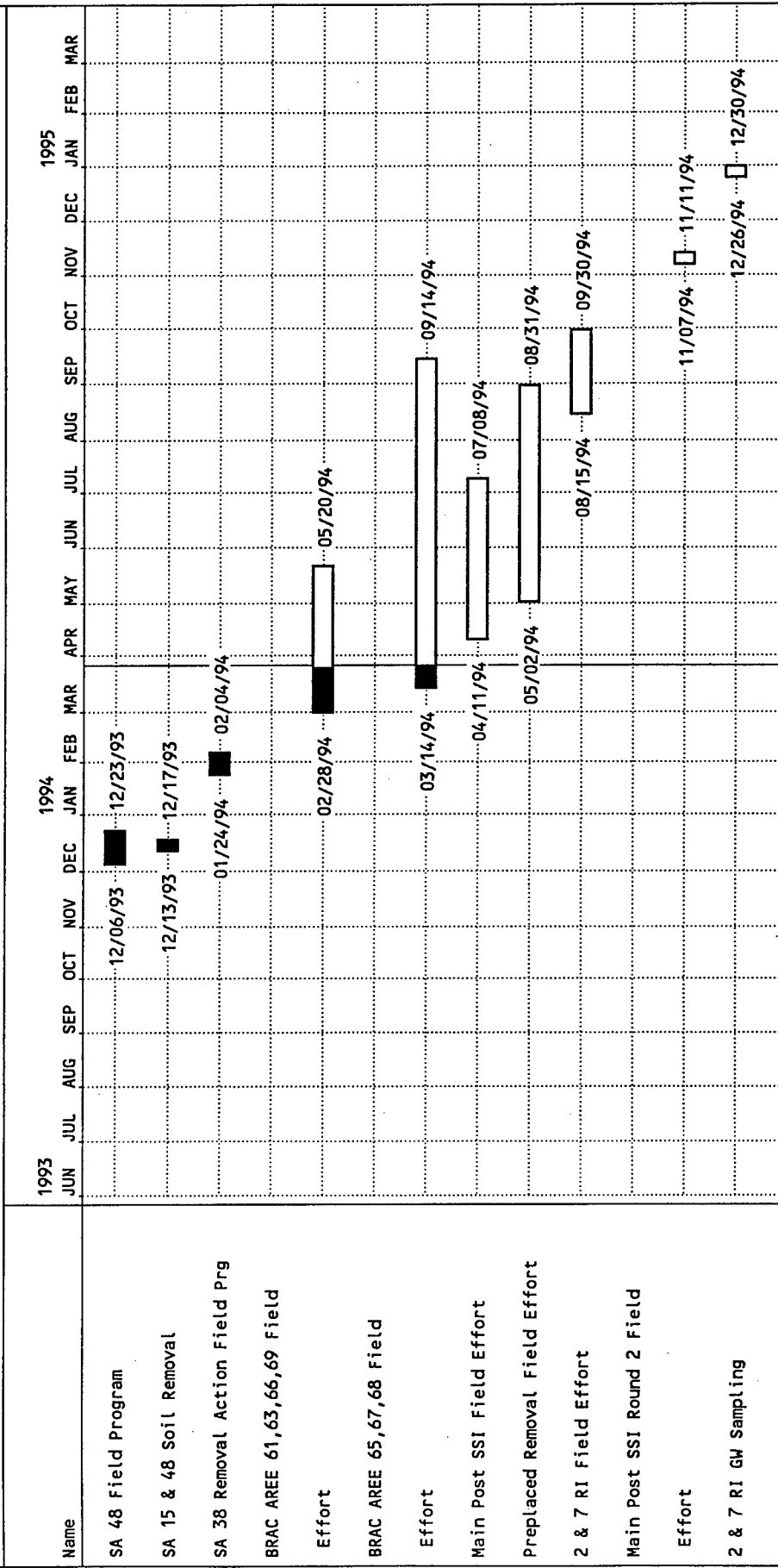
Name	1994											
	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
14 LUST Sites						12/13/93			01/28/94			

 critical	 completed	 total float	 delay
 noncritical	 milestone	 free float	 conflict
 baseline			

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PROJECT: Fort Devens
 MANAGER: James Chambers
 CURRENT DATE: 04/04/94
 AS OF DATE: 04/04/94

Figure 5-3



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PROJECT: Fort Devens
 MANAGER: James Chambers
 CURRENT DATE: 04/04/94
 AS OF DATE: 04/04/94

Figure 5-4

Name	1994											
	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	
EIS	<div style="display: flex; align-items: center;"> <div style="width: 100%; height: 15px; background-color: black;"></div> <div style="margin-left: 10px;">05/02/94</div> </div>											

critical

completed

noncritical

baseline

total float

free float

delay

conflict

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- ▶ The draft RI Report (a primary document) is published no later than 150 days after the collection of the last Round II groundwater samples.
- ▶ The final RI Report (a primary document) is published no later than 90 days after receipt of comments on the draft RI report.
- ▶ The Initial Screening of Alternatives (a secondary document) is published no later than 60 days after publication of the final RI report.
- ▶ The Detailed Screening of Alternatives (a secondary document) is published no later than 60 days after receipt of comments on the Initial Screening of Alternatives document.
- ▶ The draft FS Report (a primary document) is published no later than 90 days after receipt of comments on the Detailed Screening of Alternatives Report.
- ▶ The final FS Report (a primary document) is published no later than 90 days after receipt of comments on the draft FS report.
- ▶ The draft PP (a primary document) is published concurrently with the final FS report.
- ▶ The final PP (a primary document) is published no later than 30 days after receipt of comments on the draft PP (this is also the start of the 30 day public comment period).
- ▶ The draft ROD (a primary document) is published no later than 60 days after the end of the public comment period.
- ▶ The final ROD (a primary document) is published no later than 30 days after the draft ROD.
- ▶ The Remedial Design/Remedial Action (RD/RA) phase schedules are currently under revision, as discussed in Chapter 6. The following primary documents, as specified by the FFA are included in the RD/RA phase: RD/RA Work Plan, 60% RD, final RD, and project close-out report. The following secondary documents are included in the RD/RA phase: pre-remedial design, construction QA/QC plan, pre-final RD, and Contingency Plan.

The schedule detailed in Figure 5-1 is based upon the following general description:

▶ NEPA	
Draft EIS	11/23/92 - 10/7/94
Final EIS	12/6/94 - 3/3/95
ROD	3/4/95 - 9/4/95

▶ Real Estate	
DoD Screening	11/4/91 - 12/5/91
McKinney Screening Phase I	3/20/92 - 7/14/92
McKinney Screening Phase II	4/93 - 5/93
Federal Screening	6/12/92 - 7/2/92
State and Local Screening	6/94 - 7/94
Disposal	9/94 - 7/98
▶ Environmental Restoration	
Enhanced Preliminary Assessment	8/23/91 - 4/29/92
RI/FS	9/2/90 - 3/96
Remedial Design	9/21/92 - 8/96
Remedial Action	3/23/93 - 3/98
Statement of Condition	4/98 - 5/98
▶ Enclave Design and Construction	
Design	1/11/94 - 6/95
Construction	1/95 - 7/96
RBOD	7/1/96

5.1.2 Requirements by Fiscal Year

The detailed requirements information by fiscal year was provided by the BCT and is incorporated into this document by reference. The tables in Appendix A to this document will provide summary information on funding requirements.

5.2 Compliance Programs

This section presents master compliance schedules and outlines fiscal year requirements for Fort Devens's environmental compliance programs. Mission-related and closure-related programs are scheduled separately.

5.2.1 Master Compliance Schedules

The compliance schedule for mission/operation-related compliance programs for Fort Devens is provided in Figure 5-2. The compliance schedule for closure-related compliance programs is provided as Figure 5-3. Compliance activities to be completed include:

▶ 14 LUST Sites	12/13/93 - 1/28/94
▶ SA 38 Removal Action Fiddler Program	1/24/94 - 2/4/94
▶ BRAC AREE 61, 63, 66, 69 Field Effort	2/28/94 - 5/20/94
▶ BRAC AREE 65, 67, 68 Field Effort	3/14/94 - 9/14/94
▶ Main Post SS1 Field Effort	4/11/94 - 7/8/94
▶ Replaced Removal Field Effort	5/2/94 - 8/31/84
▶ 2&7 RI Field Effort	8/15/94 - 9/30/94

- ▶ Main Post SSI Round 2 Field Effort
- ▶ 2&7 RI Groundwater Sampling

11/7/94 - 11/11/94
12/26/94 - 12/30/94

5.2.2 Requirements by Fiscal Year

The detailed requirements information by fiscal year was provided by the BCT and is incorporated into this document by reference. The tables in Appendix A to this document will provide summary information on funding requirements.

5.3 Natural and Cultural Resources

This section presents master natural and cultural resources activity schedules and outlines fiscal year requirements for Fort Devens natural and cultural resource programs.

5.3.1 Natural and Cultural Resources Schedule(s)

The natural and cultural resources schedule for past projects at Fort Devens is provided in Figure 5-4.

5.3.2 Requirements by Fiscal Year

The detailed requirements information, by fiscal year was provided by the BCT and is incorporated into this document by reference. The tables in Appendix A to this document will provide summary information on funding requirements.

5.4 Meeting Schedule

Meetings are scheduled to promote an expedited restoration schedule for Fort Devens. A listing of the currently scheduled BCT meetings is provided in Table 5-1.

TABLE 5-1. BCT MEETING SCHEDULE

Date	Topic
22 November 1993	Quarterly Progress Report
15 December 1993	Meeting: Former Tannery Site
17 December 1993	Meeting: Solid Waste Closure
26 January 1994	TRC/RAB Meeting
22 February 1994	Submit Quarterly Report
20 May 1994	Submit Quarterly Report

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CHAPTER 6

► TECHNICAL AND OTHER ISSUES TO BE RESOLVED ◀

This chapter summarizes technical and other issues that are yet to be resolved. These issues include information management; usability of historical data; data gaps; natural (background) levels of elements and compounds in soil, groundwater, surface water, and sediments; risk assessment; state cleanup standards; and program initiatives to complete cleanup requirements as required to meet property transfer schedules.

6.1 Data Usability

This section identifies issues that need to be resolved with regard to the quality and comparability of data gathered and used in the installation environmental restoration and compliance programs.

6.1.1 BCT Action Items

No BCT action items have been identified at Fort Devens at this time.

6.1.2 Rationale

As the number of agencies and contractors associated with the Fort Devens disposal and environmental restoration program increases, it is important that all parties generate data of similar quality to ensure all data can be compared and used to make remediation decisions.

6.1.3 Status/Strategy

A summary of the current status of data usability relative to BRAC cleanup activities at Fort Devens and strategies which have been developed to address data usability requirements is provided below.

Data quality objectives (DQOs) have been developed for Fort Devens to ensure that data collected during the field investigation/remedial action will be of sufficient quality to support subsequent decision-making during the SI/RI/RA process. The BCT will continue to utilize the existing Quality Assurance/Quality Control (QA/QC) programs, and assess new QA/QC programs when identified, to ensure all data collected of adequate quality and usability.

6.2 Information Management

This section summarizes unresolved issues pertaining to data management in the installation environmental restoration program.

6.2.1 BCT Action Items

Open issues exist in the areas of Geographic Information System (GIS) input and system responsibility. Currently, a large portion of the data generated by the various agencies studying Fort Devens is entered into the GIS system, maintained by the MADEP in their Central Region Office in Worcester. The BCT needs to develop the following:

Long-Term GIS System Responsibility. A long term strategy for data entry, maintenance, and use of the consolidated GIS system is needed. This will be particularly important as projects move from the study phase into the remediation and reuse phases. The potential for application of the GIS system will increase, as will the number of users.

GIS Data Standards, Input, and Data Request Procedures. Standards for data quality need to be developed for input into the GIS system. Additionally, administrative protocols for data input and data retrieval need to be created.

One-Time GIS Update from IRDMIS. The GIS system needs to be updated with data that is in the Army's IRDMIS system. While the MADEP can access the data base through a modem, a one-time transfer via magnetic medium would be less time consuming.

60-Day and 90-Day Data Submittal Standardization. A standard format for the 60 day and 90 day submittals that the Army is required to prepare under the FFA needs to be developed. Currently, the Army's contractors submit data in different formats which make translation into the GIS system difficult.

6.2.2 Rationale

Long-Term GIS System Responsibility. Current GIS system responsibility lies with the USEPA and MADEP. This is the result of the regulatory agencies initiative to establish a GIS system on Fort Devens for their own use in document review, program development, etc. It is anticipated that as reuse and remediation activities continue inputs into and requests from the system will increase. The BCT, along with the Project Team, need to identify an agency that will have the responsibility and resources to support the long-term maintenance of the GIS system.

GIS Data Standards, Input, and Data Request Procedures. Currently, multiple agencies are inputting and requesting data from the joint regulatory agency GIS system. The MADEP has developed a draft data dictionary that describes data input requirements. For the long and short term, the data protocols as well as administrative procedures for inputting and requesting data need to be developed to ensure data uniformity, quality, and application.

One-Time GIS Update from IRDMIS. The IRDMIS portion of the current joint regulatory agency GIS system was created through a series of small translations and input into the system. The IRDMIS system has a much larger amount of data and a more current data set that should be transferred to the GIS system through a one-time "data dump."

60-Day and 90-Day Data Submittal Standardization. The MADEP views the GIS system as a tool to assist in document review. As such, the 60 and 90 day interim data submission required by the FFA allows the MADEP to enter data into the GIS system for use while reviewing documents which discuss that data. Currently data comes in differing formats from Army contractors, making translation into the GIS system difficult.

6.2.3 Status/Strategy

Long-Term GIS System Responsibility. The BEC is currently considering the feasibility of maintaining the GIS system at Fort Devens. Attempts to obtain GIS hardware, software, and personnel have been unsuccessful to date. The BEC is also considering joint responsibility, shared by the BCT and the Devens Reuse Center. The BEC will continue these investigations, and with support from the rest of the BCT, determine the best agency and management system for the long-term GIS system.

GIS Data Standards, Input, and Data Request Procedures. The MADEP will publish their draft data dictionary and request all inputters and data receivers to review and comment. Along with the request for data review, the MADEP will publish short term administrative procedures for input into and data requests from the GIS system. This will serve as the short term strategy. Long term strategies will be developed in conjunction with the issue of long-term GIS responsibility.

One-Time GIS Update from IRDMIS. The USAEC will contact the MADEP to determine exactly what data files and formats are needed. After these are identified, the USAEC will request, from its IRDMIS contractor, a "data dump" in the format specified by the MADEP.

60-Day and 90-Day Data Submittal Standardization. The USAEC will contact the MADEP to determine which format is preferable, or develop a new, preferred format. The USAEC will then produce a custom report in this format, and require all future 60 and 90 day data submittals be presented in this format.

6.3 Data Gaps

This section summarizes unresolved issues pertaining to the identification of data needs and collection of data to complete the Fort Devens environmental restoration program.

6.3.1 BCT Action Items

The BCT will continue to monitor the progress and results of ongoing environmental restoration activities to ensure all data necessary to support remedy selection and remediation efforts is collected.

6.3.2 Rationale

Effective identification and filling of data gaps will permit the development of comprehensive conceptual zone or site models for site characterization and risk assessment. It is necessary to

develop conceptual models and evaluate risk to select appropriate remedies and to identify areas requiring no further action.

6.3.3 Status/Strategy

The Fort Devens BCT takes extensive measures to minimize data gaps. Data gaps identified after the review of a document can significantly slow the restoration process, as additional scoping, procurement, data collection, and data analysis are required to fill the data gap. To avoid these delays, the BCT makes every attempt to identify potential data gaps prior to the initiation of field efforts.

The Army involves various technical disciplines in scope development and attempts to consider specific data requirements early in the process. Examples of this are consideration of risk assessment requirements during RI scope development and consideration of engineering requirements during FS scope development.

The BCT performs joint review of scopes of work, where the Army has provided scopes of work for various phase studies for regulatory comment prior to procuring the contract, delivery order, or modification for that phase of work.

The BCT performs joint review of work plans prior to the initiation of field work. This allows the Army and regulatory agencies to review the work proposed at a site, and at that time identify data gaps, which can be incorporated into contract modifications, allowing the work to continue on or near schedule.

Prior to the initiation of field activities, the BCT performs pre-drilling site visits. At these visits, the Army shows the regulatory agencies, in the field, actual locations where samples are proposed to be taken. These locations may include variances to the draft work plan, based upon Army and regulatory comments. These comments, as well as agreements made during the pre-drilling site visit, are incorporated in the final work plan for a site.

6.4 Background Levels

This section summarizes unresolved issues pertaining to documenting background levels for Fort Devens environmental restoration program.

Fort Devens has used a variety of background levels for the evaluation of analytical results. The first, for soil only, was presented in the draft Group 1A RI report and received numerous negative comments from the regulatory agencies. The comments dealt primarily with the inclusion of possible "outliers" in the background data set as well as numerous comments on the general statistical treatment. The background intervals presented in the Groups 3, 5, and 6 SI Report involved the removal of outliers from the soil sediment data set through visual identification, followed by the calculation of a background "interval", identified as the mean of the data set plus or minus one standard deviation. The groundwater background data set was also presented. This set of background values has subsequently been used in numerous reports and resulted in many review comments, including those describing background as an "open issue."

To further address these comments and implement additional USEPA guidance, the Army presented a new, proposed background data set in the Group IB RI Report, which was under review at the time of the completion of this Version I BCP.

6.4.1 BCT Action Items

The BCT will review the proposed installation-wide background levels presented in the Group IB RI Report with the understanding that if it is approved, or may be approved with minor modifications, it will be adopted in its approved form.

6.4.2 Rationale

Agreement on the background data set is critical to many environmental decisions at Fort Devens. While the use of "interim, "semi-approved" background numbers has not prevented progress in key areas, it has resulted in numerous review comments. The Group IB RI proposed background ranges are the result of numerous comments, guidance, and the collection of additional background sample data.

6.4.3 Status/Strategy

The BCT will review the proposed background levels presented in the Group IB RI in developing the approved, installation-wide background levels for Fort Devens. After review, the BCT will hold a special meeting to discuss their review of the proposed levels and either approve as presented, or make suggestions for improvement. After review and/or change and approval, the background ranges will be incorporated into the evaluation of data in all future reports. Old reports, however, will not be re-evaluated to assess the impact of the "new" background numbers. Additionally, ongoing studies will not change background ranges between draft and final versions.

6.5 Risk Assessments

This section summarizes unresolved issues pertaining to risk assessments required to complete the Fort Devens environmental restoration and compliance programs.

6.5.1 BCT Action Items

There are no issues with regard to risk assessment that need to be resolved at this time.

6.5.2 Rationale

The BCT developed a risk assessment protocol early in the cleanup process. Conformance to the protocol, as well as other issues, are reviewed early in the cleanup process through the publication of the Risk Assessment Approach Plan (RAAP).

6.5.3 Status/Strategy

The need for risk assessment protocols was recognized early in Fort Devens restoration program, and a special meeting was held on November 14, 1991 to develop the protocols. The protocol agreements are detailed in the meeting memorandum (enclosed). Further agreement and confirmation of compliance with agreed-to protocols is accomplished through the use of the RAAP, which is a secondary document prepared prior to a draft RI report. The RAAP describes the conceptual site model, including present and future pathways and receptors, and describes the protocols to be used. Items such as the selection of Chemicals of Concern (COC) are further discussed in the RAAP. No new risk assessment strategies are required at this time.

6.6 Installation-wide Remedial Action Strategy

An installation-wide remedial action strategy has been developed for Fort Devens. This section of the BCP discusses issues of this strategy which need to be addressed.

6.6.1 BCT Action Items

Fort Devens currently has three installation-wide remedial design strategies which are presented below.

Use of Commonwealth of Massachusetts Designated Licensed Site Professionals (LSP). The Commonwealth of Massachusetts has a program in which environmental engineering professionals are registered and given permission to make certain remedial decisions at certain sites. For those sites (SAs and AOCs) listed in the FFA, use of LSPs should not be an issue, since they are regulated and overseen directly by the MADEP under the Massachusetts Hazardous Waste Site Cleanup Regulations (21E). For AREE sites and compliance sites not listed under the FFA and not subject to the direct MADEP oversight, use of LSPs is questionable. The specific issue is whether or not the Army should include contracting for LSP review and approval of remediation plans at these sites.

Development/Use of Groundwater Zones. Early in the process, "Evaluation Zones" were developed to allow for geographical grouping of the sites at Fort Devens. The need to modify the existing "Evaluation Zones" into "Groundwater Zones" should be evaluated. The MADEP proposes these groundwater zones be based upon flow regimes and used to identify where releases from multiple sites into the same flow regime may result in additive risks from contaminants at down-gradient exposure points. This was the intent behind the original evaluation zones.

Training Areas and Ranges. In the ENPA, Training Areas and Ranges were identified as installation-wide AREE Number 60. Subsequent to the ENPA, it was decided at the 1992 Fort Devens Interagency Conference in Lennox, MA that AREE 60 did not effect the areas to be reused, and was better addressed under normal Operations and Maintenance (O & M). The MADEP proposes that issues with regard to historic training ranges on the North Post (which is a reuse area) have not been adequately addressed.

6.6.2 Rationale

Use of Commonwealth of Massachusetts Designated LSPs. Use of LSPs may allow for increased MADEP regulatory focus on the more complex FFA sites. The need for LSP involvement at AREE sites is an open issue due to the history of regulatory involvement at these sites and their potential for inclusion as FFA sites. The Army needs to assess the need for LSPs at certain sites and communicate their decision to the BCT.

Development/Use of Groundwater Zones. Development of groundwater zones or modification of existing evaluation zones into groundwater zones would allow for a more comprehensive evaluation of multiple sites with the potential for contamination co-mingling, according to the MADEP. The BCT needs to decide on the utility of groundwater zones. If determined to be useful, incorporation of these zones into the current groundwater modeling program will be completed by the USAEC. This would require identification and programming of funds.

Training Areas and Ranges. At the request of the MADEP, the BCT must decide if AREE 60, Training Areas and Ranges should to be re-opened for study beyond normal O&M. If a new assessment/evaluation of historical ranges is warranted the BCT must determine under which program to perform the study. If AREE 60 is to be treated similar to other installation-wide AREEs in an Environmental Evaluation (EE), then funds will have to be programmed and the effect on the reuse of these parcels evaluated.

6.6.3 Status/Strategy

Use of Commonwealth of Massachusetts Designated LSPs. The BEC, in coordination with the Fort Devens Environmental Management Officer and other Fort Devens staff, will assess the need for and utility of contractually requiring LSP oversight at certain sites. Once a decision has been made the BEC will notify the remainder of the BCT, in writing, of the intended use of LSPs on Fort Devens.

Development/Use of Groundwater Zones. The BCT will hold a meeting with selected members of the project team to discuss the need for groundwater zones. If the BCT consensus is that such zones are needed, the BCT will assess available options for programming the required funds. If funds are available, the BEC will request that the USAEC modify an existing groundwater modelling contract to include the development of these zones.

Training Areas and Ranges. The BCT will hold a meeting with selected members of the Project Team to discuss the MADEP's request to re-open the installation-wide AREE 60, Training Areas and Ranges for environmental assessment/evaluation. If the BCT consensus is that re-opening is warranted, then the BCT will assess available options for programming the required funds. If funds are available, the BEC will task the appropriate Project Team element to contract for the study.

6.7 Interim Monitoring of Groundwater and Surface Water

Since 1991, the Army has been performing quarterly measurements of elevations of groundwater in all groundwater monitoring wells and selected surface water elevations. Approximately 30 groundwater monitoring wells and approximately 25 surface water elevation points are measured. These numbers will increase as more studies progress. The quarterly groundwater and surface water elevation measurements are taken by a USAEC contractor, loaded into the IRDMIS system, and made available to all members of the BCT.

6.7.1 BCT Action Items

The BCT needs to determine how long these quarterly measurements will continue and who will be responsible for long-term for data collection and input.

6.7.2 Rationale

As the study phase ends, USAEC contractor involvement will decrease and consideration of alternate responsible agencies, such as USACE, NED, needs to be made. This transition could occur as soon as early FY 95 or as late as the middle of FY 96, when USAEC contractor involvement is anticipated to be nearly complete.

6.7.3 Status/Strategy

As an agenda item for a BCT meeting, the issue of continued (post FY 95) quarterly groundwater elevation measurements will be discussed. A decision on how long to continue, or standards for discontinuing the measurement, will be made. The BEC will review contracting options and decide upon the appropriate agency.

6.8 Excavation of Contaminated Materials

This section identifies issues that need to be resolved with regard to excavation of contaminated materials

6.8.1 BCT Action Items

In January 1994 the Army published what it considered the final General Soils Management Policy (GSMP) for Fort Devens. The GSMP was developed to establish installation-wide standards and procedures for the treatment and/or reuse of excavated waste site soils. The focus was for soils contaminated with petroleum derived compounds. Subsequent comments from the MADEP have raised several issues in regard to the application of the GSMP. These include the use of Reportable Concentrations (RCs) as defined in 21E versus the Army's proposed use of MADEP 21E Method 1 Risk Assessment numbers.

Another issue is the requirement under 21E for Activity and Use Limitation (AULs) due to certain soil re-uses. The final issue is characterization of the proposed soil reuse areas.

During 1992 and 1993, the Army and the regulatory agencies developed a mutually agreed to UST Removal Protocol. Subsequent to this, development of the revised MADEP 21E regulations as well as the Army's development of the GSMP, has raised the issue of the need to update the UST Removal Protocol to reflect these new requirements.

6.8.2 Rationale

The approval of a GSMP will expedite the treatment and reuse of excavated waste site soils throughout Fort Devens. It allows for a holistic approach to excavated waste site soils treatment and reuse, and has the potential to accelerate future response actions. For these reasons, the GSMP needs consensus for all soil contamination sites at Fort Devens.

The UST protocol was an important step towards a consensus between the Army and regulatory agencies on standards for UST removal. The recent publication of the updated MADEP 21E and the Army's proposed final GSMP have made portions of the UST protocol obsolete. The UST protocol should be updated to reflect these changes.

6.8.3 Status/Strategy

The Army has received comments from the MADEP on the final GSMP. Further comments will be provided by the MGLB. After receipt of all regulatory comments and comments from the MGLB, the Army will prepare a draft Response to Comments package and the BCT will have a meeting with selected project team members to discuss finalization of the GSMP.

The Army, through a contract with the USAEC, will have the existing UST Removal Protocol updated to reflect the new requirements of 21E. Following this and approval of the final GSMS, the Army will review the necessity of updating the UST Removal Protocol to accurately reflect the GSMP.

6.9 Protocols for Remedial Design Reviews

Fort Devens has developed protocols for remedial design reviews associated with the OUs that require remedial action.

6.9.1 BCT Action Items

The BCT needs to determine what levels of design actually need review and what agencies/persons should be included in the review process.

6.9.2 Rationale

A shorter review schedule than that in the FFA may be sufficient for the Fort Devens project. Also, due to the extremely complex nature of the remedial designs and the exhaustive public involvement in the Proposed Plan/ROD, a re-evaluation of who is provided the remedial designs for review is needed.

6.9.3 Status/Strategy

USACE, NED, will develop a plan for remedial design review. This plan will be presented to the BCT and after approval, will be adopted into the FFA.

6.10 Conceptual Models

Conceptual site model data summaries for those operable units currently undergoing RI are provided in Appendix E. These OUs are: Shepley's Hill Landfill Groundwater (AOCs 4, 5, and 18), Cold Spring Brook Landfill (AOC 40), DRMO Yards (AOC 32), Central Fueling Point (AOC 43A) and the Barnum Road Maintenance Yards (AOCs 44 and 52). Conceptual site model data summaries will be developed for OUs undergoing RI in the future will be presented in the RAAP document for that OU, and incorporated in subsequent versions of the BCP (Appendix E).

6.10.1 BCT Action Items

There are no issues with regard to conceptual site models that need to be resolved by the BCT or Project Team at this time.

6.10.2 Rationale

Conceptual site models have been developed for ongoing RI sites. There is a program for the development and presentation of conceptual site models at future RI sites.

6.10.3 Status/Strategy

Future RI sites will include conceptual site model data summaries in the RAAP. The summaries will also be added to future versions of the BCP.

6.11 Cleanup Standards

For RI/FS sites (OUs), cleanup standards are developed through the ARARs process or through the establishment of risk-based cleanup standards in accordance with Risk Assessment Guidance for Superfund (RAGS). For non-RI sites, such as removal action sites, standards are presented in the removal Action Memorandum. These standards are developed in a process similar to the ARARs process, through review of regulations. At present, there is no plan to develop installation-wide cleanup standards beyond these processes. The only remaining issue is the preference in the MADEP 21E regulations to consider, where feasible, remedial actions that result in cleaning the site to background. The Army and USEPA propose the MADEP 21E regulations are largely administrative in nature, and as such, are duplicative of the CERCLA process and not an ARAR.

6.11.1 BCT Action Items

The BCT must determine how to address the MADEP's request that the Army consider and implement, where feasible, remedial options that result in cleanup to background levels for remedial actions at AOCs, subsequent to ROD and removal action sites.

6.11.2 Rationale

The Army has determined that cleanup standards are either ARARs-based or health risk-based and do not include cleanup to background levels. This has resulted in numerous comments and disagreements about specific site cleanup standards, however, the process has not been significantly slowed or stopped.

6.11.3 Status/Strategy

The issue of consideration and implementation of remedial alternatives that result in cleanup to background will be discussed at a BCT meeting. If the BCT can not resolve the issue, the BEC will request that the MADEP prepare a position paper outlining the MADEP's position and requirements. The BEC and USEPA RPM will review the position paper. If the issue cannot be resolved through this process, a meeting of management-level personnel from all agencies involved will be convened to resolve the issue.

6.12 Initiatives for Accelerating Cleanup

During 1992 and 1993, the Army developed an Acceleration Plan that was reviewed and concurred with by the regulatory agencies. Key points of the plan included:

- ▶ Overlap of SI, RI/FS, and RD/RA phases
- ▶ Treatment of installation-wide AREEs outside the FFA process
- ▶ Acceleration of procurement actions
- ▶ Concurrent Army/regulatory review of all work plans, SI reports, FS reports, and secondary documents
- ▶ Compression of time allocated to produce revised documents and comment response packages
- ▶ Compression of field schedules
- ▶ Supplement existing work plans for future work instead of producing new work plans (includes Quality Assurance Project Plans and Health and Safety Plans)
- ▶ Initiate field work after review and resolution of comments on draft work plans

- ▶ Use SI data packages as the decision point for NFRAP, Removal Actions, or continued study under Supplement Site Investigation (SSI) or RI/FS
- ▶ Attempt to reduce review times to less than those stipulated in the FFA
- ▶ Agreement to proceed with acceleration prior to FFA modifications

Additionally, since finalization of the acceleration plan in May 1993, the BCT has undertaken other acceleration initiatives including:

- ▶ Concurrent Army/regulatory review of all documents, including RI reports
- ▶ Reduction of the number of version of primary from four to two. Previously and in accordance with the FFA, all primary documents had Army draft, regulatory draft, draft final, and final versions. Under acceleration only draft and final versions are produced and reviewed.
- ▶ Concurrent submission of comment response packages for comments received on a draft document with the final version of the document, where appropriate
- ▶ Extensive use of targeted analytes and field screening techniques to allow for focusing of lab-quality analytical data gathering and collection of large amounts of quantification data at reduced cost

6.12.1 BCT Action Items

No BCT action items have been identified at Fort Devens at this time.

6.12.2 Rationale

It is desirable to initiate accelerated cleanups at Fort Devens to facilitate the property transfer process.

6.12.3 Status/Strategy

Fort Devens has developed and implemented an aggressive acceleration plan for almost two years. New issues that have risen are due to the publication of the BCP Guidebook. Because the new issues are a direct result of the requirements of the "Fast Track Cleanup" program, resolution at the DoD level is suggested in the following status/strategy section.

6.13 Remedial Actions

In accordance with the National Contingency Plan (NCP), remedial actions must be initiated no later than 15 months after ROD signature. The BCT will attempt to initiate actions prior to this date, whenever possible. General procedures for remedial actions are detailed in Section 6.6 Installation-wide Remedial Action Strategy.

6.13.1 BCT Action Items

There are no issues with regard to remedial actions that need to be resolved by the BCT or Project Team at this time.

6.13.2 Rationale

Remedial action timetables are determined by the NCP and the FFA.

6.13.3 Status/Strategy

Remedial actions will be incorporated into the installation-wide remedial action strategy. Selection of remedial alternatives will be based on data collected from ongoing environmental investigations, evaluation of cleanup standards, and the technical and administrative feasibility of potential alternatives.

6.14 Review of Selected Technologies for Application of Expedited Solutions

The BCT has had the opportunity to consider and review numerous technologies for expedited solutions. These technologies fall into two general categories. The first are presumptive remedies, described in Section 6.22. The second is the treatment of excavated petroleum contaminated soils. During development of potential remedial alternatives for the contamination at the Barnum Roads Maintenance Yards OU (AOCs 4 and 52), construction of a Central Soil Treatment Facility (CSTF) and treatment of soils from AOCs at the CSTF was developed. This is known as Alternative 9. The CSTF will be modular in design. The first module will be designed to treat the initial volumes of soil and serve as the "pilot study" for subsequent remediations. In this manner, remedial actions can build upon lessons learned in prior remedial actions and not require pilot studies for each site. It was envisioned that the CSTF could also be used to treat petroleum contaminated soils from other CERCLA sites throughout Fort Devens. During review of the AOCs 44 and 52 FS reports, the BCT and the reuse agencies have recognized the benefit of having such a facility on Fort Devens. 44

6.14.1 BCT Action Items

Two issues remain concerning the CSTF. First, if Alternative 9 is not chosen as the most feasible remedial alternative for AOCs 44 and 52, then the BCT needs to decide if there is still a need for the CSTF, and if there is a need, how to administratively develop, design and construct the CSTF. Secondly, if the CSTF is constructed, the BCT needs to determine if there is a method for allowing soil generated at non-CERCLA sites to be treated at the CSTF.

6.14.2 Rationale

The construction of a CSTF at Fort Devens has the potential to both save money and accelerate restoration of sites with petroleum contaminated soil throughout Fort Devens. It also could enhance future redevelopment because, if economically viable after fort closure, it's presence would allow for rapid response to contamination detected during post-closure redevelopment

construction activities. The cost benefit of the CSTF is contingent upon reasonable capital construction costs and a sufficiently large quantity of soil requiring treatment to make the initial capitalization cost-effective over the life of the facility.

6.14.3 Status/Strategy

The Army, in conjunction with the BCT, will select the preferred alternative for AOCs 44 and 52. If Alternative 9 (including the CSTF) is not selected, the Army will open discussions with the remainder of the BCT on the viability of the CSTF and administrative processes for supporting the construction of the CSTF. On the second issue, if it is determined the CSTF will be constructed, the BCT will determine if non-CERCLA soils should be treated at the CSTF. Administration of treating non-CERCLA soils would need to be established for this to occur. The method of formalization of the resolution of this issue must also be discussed by the BCT.

6.15 Hot Spot Removals

As defined in the DoD guidance, this review item involves implementation of rapid removal of "hot spots" while investigation continues. This has been a goal of the Fort Devens restoration process. Early identification of these rapid removals was a key component of the SI Data Package concept, described in section 6.12, Initiatives for Accelerating Cleanup.

6.15.1 BCT Action Items

The BCT desires to ensure that all future hot spot removals be conducted using the appropriate contracting mechanisms. A previous removal action underestimated the amount of contaminated soil to be removed, and a "purchase order" contract was written to shorten the procurement time. The removal action had to be stopped due to limitations of purchase order contracts. The removal was subsequently completed with the appropriate contracting mechanism. The BCT would like to ensure that contracting mechanisms are in place to ensure the rapid completion of future removals.

6.15.2 Rationale

The exact total amount of contaminated soil, or other media, either cannot be accurately estimated, or the time and cost of data collection required to develop such an estimate would be prohibitive. Because of this, time critical hot spot removal actions need to be conducted using a contracting method that allows for maximum flexibility as additional contamination is encountered or suspected contamination is quantified. The contract should allow for the remediation of an unexpectedly large quantity of contaminated media.

6.15.3 Status/Strategy

Continue the early identification of potential hot spot removal sites and support USACE in the development of multiple, in-place contract options to conduct these removals. USACE will update the BCT on a regular basis.

6.16 Identification of Clean Properties

The primary method for identification of clean parcels is the CERFA Report. This report is currently under review. The final determination of the first group of clean parcels will be dependant upon USEPA concurrence with the CERFA parcels identified in the report. Additional clean parcels may be identified through the preparation of parcel-specific Environmental Baseline Surveys (EBS), which could be completed after a parcel was identified as disqualified or having qualifiers due to "potential" environmental issues. These "potential" issues may be verified as non-existent subsequent to finalization of the CERFA Report. In this case, the parcel-specific EBS will be prepared to update the "potential" issues in the CERFA report and identify the parcel as "clean."

6.16.1 BCT Action Items

There are no issues with regard to clean parcels that need to be resolved by the BCT or Project Team at this time.

6.16.2 Rationale

The CERFA Report will identify the initial group of clean parcels. Procedures for subsequent identification of clean parcels have been established.

6.16.3 Status/Strategy

The CERFA Report will serve as the initial identifier of clean parcels. Subsequently, additional parcels may be identified as clean through the preparation of parcel-specific EBSs and will be reflected in the CERFA Report.

6.17 Overlapping Phases of the Cleanup Process

After announcement of base closure, several acceleration initiatives, including the Fort Devens Acceleration Plan, discussed in Section 6.12, and this BRAC Cleanup Plan were initiated. The resulting phase overlaps, all of which has been planned or in place since early 1993, are described below:

- ▶ Within a particular phase, SI, RI/FS, Removal, etc., field work is initiated before completion and approval of a final work plan for that phase. The draft work plan is issued, and comments are received and resolved during the pre-drilling site visit. The work plan is then finalized for formal approval as a final version. When comments are received on a draft document they are reviewed and discussed at a comment resolution meeting, if required. The formal comment summary is submitted concurrently with the final version of the document. The submission of comment response packets for comments received on a draft document concurrently with the final version of the document allows technical personnel to work out issues directly and avoids a long, drawn-out review

process. These initiatives allow overlap within a phase (sub-phase overlap) and contribute significantly to acceleration of the overall program.

- ▶ A SI or SSI data package is produced within 120 days of completion of the field effort under a SI or SSI. The data package includes upon graphical and tabular presentation of data combined with a Preliminary Risk Evaluation (PRE) for making a recommendation for appropriate follow-on work on the site, if any. The SI or SSI data package uses minimal narrative, and based upon an assessment of the nature and extent of contamination (if present) and the PRE, makes a recommendation of: NFA, Removal Action, or continued study as a SSI or RI/FS. After review, the BCT meets to discuss and approve or make alternate recommendations to those presented in the SI or SSI Data Package. The SI or SSI data package is produced very early in the traditional SI process, often 30 days after receipt of validated data. This allows for intensive overlap as scoping for removals, SSIs or RI/FSs can be initiated long before finalization of the complete SI report. As a result the removal action, NFA, DD, and RI/FS phases are all overlapped with the SI phase.
- ▶ The scoping and actual RD for OUs (AOCs) is planned to occur concurrently with the preparation of the ROD. The goal is to have the RD at least 60% complete by the time the ROD is signed.

6.17.1 BCT Action Items

There are no issues with regard to phase overlap that need to be resolved by the BCT or Project Team at this time.

6.17.2 Rationale

Fort Devens currently maximizes phase overlap in all areas of the restoration process.

6.17.3 Status/Strategy

The BCT will continue the ongoing phase overlap and will review new potential overlaps, as they are identified.

6.18 Improved Contracting Procedures

Currently, the majority of the study phase is conducted by the USAEC using the cost-plus-fixed-fee Total Environmental Program Support (TEPS) contracts. These contracts allow for maximum flexibility of delivery order assignment and modifications in response to changing situations. For RD and other program support, USACE has been using a pre-placed delivery order environmental engineering contract. This allowed for rapid assignments of delivery orders to effect the design of removal and closure actions. Contractually, USACE has the capability to provide remediation services, depending upon the urgency at a particular site by the following means: (1) immediate response (contractor on-site between 48 and 72 hours), (2)

rapid response (contractor on site between 30 and 60 days), and (3) pre-placed remedial action contracts (contractor on-site between 90 and 120 days). All three of these contracting mechanisms have been, or are planning to be, used at Fort Devens. USACE also has the capability to use a Total Environmental Restoration Contract (TERC), where one contractor can perform RD/RA after USAEC completes the study phase of the project. USACE can also access fixed price, competitive bid contracts where appropriate and time allows. Establishment of alternative, flexible, in-place remedial action contracts is being developed by USACE, NED.

6.18.1 BCT Action Items

The only issue with regards to improved contracting is discussed under Section 6.15.1, Hot Spot Removals.

6.18.2 Rationale

With the exception of removal actions (see Section 6.15.2), current contracting mechanisms provide the required flexibility and capacity to support the remediation program at Fort Devens.

6.18.3 Status/Strategy

The BCT will continue to use existing contract mechanisms and support the USACE in development of multiple options for removal and remedial actions (see Section 6.15.3).

6.19 Interfacing with the Community Reuse Plan

There is an extremely active reuse interest in Fort Devens. A community consensus reuse plan is anticipated to be finalized in 1994. The Memorandum of Agreement designated the U.S. Army, the MGLB, the JBOS, the USFWS, and the FBOP as joint cooperating agencies in the Fort Devens Disposal and Reuse EIS. The proposed master reuse plan is a key portion of the EIS process, as it is with other environmental processes. Restoration studies and cleanup activities will be prioritized and focused upon high potential reuse areas, where possible. This was demonstrated by the focus of cleanup activities upon the FBOP parcel to allow for reuse as soon as possible. Reuse plans help develop cleanup standards to ensure the degree of cleanup is appropriate for the intended reuse. The master reuse plan considers the potential impacts of restoration sites and natural resources, and this coordination will continue as specific reuses are identified.

6.19.1 BCT Action Items

There are no issues with regard to interfacing with the community reuse plan that need to be resolved by the BCT or Project Team at this time.

6.19.2 Rationale

Intensive interfacing between the reuse group, the Disposal and Reuse EIS, and restoration activities currently exists. The community reuse plan is an integral component in development of the Disposal and Reuse EIS and the restoration program at Fort Devens.

6.19.3 Status/Strategy

The BCT will continue to work with the reuse group in the development of specific reuse activities that will be compatible with restoration activities. The BCT will continue to prioritize restoration activities on high-priority reuse parcels, where possible.

6.20 Bias for Cleanup Instead of Studies

The Fort Devens BCT exercises bias for cleanup instead of study through the implementation of rapid removal actions that use the "investigation by excavation" approach and the planned use of initial, smaller scale remedial actions as "pilot studies" for larger scale remedial actions. Under removal actions, various sites were identified in SI and SSI data packages for removal. In some cases the SI or SSI detected contamination at unacceptable levels but although the contamination may not have been completely quantified. In these cases, the BCT developed a removal action that would provide additional data, resulting in "investigation by excavation." These removals begin in the identified areas of contamination, and using field screening chemical analysis techniques, follow the contamination until removed to an acceptable level. The completeness of removal will be verified through the collection and analysis of laboratory samples.

6.20.1 BCT Action Items

There are no issues with regard to bias for cleanup instead of studies that need to be resolved by the BCT or Project Team at this time.

6.20.2 Rationale

The BCT currently demonstrates a strong bias for cleanup instead of study.

6.20.3 Status/Strategy

Continue with current programs to make remedial decisions and exercising of the bias for cleanup.

6.21 Expert Input on Contamination and Potential Remedial Actions

It is necessary that proper resources are used to evaluate contamination and associated remedial actions.

6.21.1 BCT Action Items

The BCT relies upon the state, USEPA, USAEC, USACE, and contractors to ensure that the proper resources are used to evaluate contamination and potential remedial actions.

6.21.2 Rationale

The use of several entities involved in the restoration at Fort Devens will promote an expedited property transfer process.

6.21.3 Status/Strategy

The state, USEPA, USAEC, USACE, and contractors will continue to ensure that the proper resources are used to evaluate contamination and potential remedial actions.

6.22 Presumptive Remedies

The BCT promotes application of recently developed and future presumptive remedies. Of particular interest are those related to remediation of Volatile Organic Compound (VOC) contamination of soil and landfill capping. The BCT feels that both of these existing presumptive remedies have a great potential for application at Fort Devens. The USEPA RPM has been proactive in identifying sites where these remedies may be applied. After completion of a draft RI report, the Army will identify OUs for application of the presumptive remedy approach, accelerating the FS process.

6.22.1 BCT Action Items

The BCT will consider presumptive remedies to expedite implementation of the installation's remedial action strategy.

6.22.2 Rationale

Presumptive remedies provide a significant potential to accelerate the remedy selection process by applying proven technology to standard contamination scenarios, many of which may be anticipated to occur at Fort Devens.

6.22.3 Status/Strategy

The BCT recognizes the potential of applying presumptive remedies to VOC soil contamination remediation and landfill capping. The BCT is exploring ways to implement these presumptive remedies and the presumptive remedy selection process at ongoing RI sites. The USEPA RPM will take primary responsibility for identifying new presumptive remedies as they are developed and briefing the BCT. The BCT will discuss potential application of these new presumptive remedies at Fort Devens.

6.23 Partnering (Using Innovative Management, Coordination, and Communication Techniques)

The Fort Devens BCT has been undergoing various partnering initiatives since 1992. These have included facilitated, off-site conferences where issues were resolved and Process Action Teams assigned to resolve specific issues. Additionally, a partnering agreement, which is attached in Appendix F, will be signed by the members of the BCT.

6.23.1 BCT Action Items

The two previous interagency conferences were sponsored by FORSCOM. The BCT feels that a third conference should be scheduled and funded for 1994.

6.23.2 Rationale

The previous interagency conferences proved to be excellent team-building sessions where goals were set and ideas shared. These conferences were significant in their ability to develop teams at multiple layers of management, and set up informal channels for issue resolution.

6.23.3 Status/Strategy

The BEC will contact FORSCOM to determine if a conference can be scheduled and funded for 1994. The other members of the BCT will provide whatever support is necessary in the form of letters of support, etc.

6.24 Updating the CERFA Report and Natural/Cultural Resources Documentation

The CERFA Report serves as the basis for the installation-wide EBS. For certain parcels, i.e. "CERFA clean parcels", it may serve as the final EBS, provided the USEPA concurs with the CERFA designation of that parcel. In this instance, the CERFA report will serve as the EBS for either transfer or lease of these parcels. Other parcels may need additional documentation and detail. As studies progress, more information may be gathered about a specific parcel. In these cases, site specific EBSs to support either leasing or property transfer will be required.

6.24.1 BCT Action Items

The BCT needs to determine the mechanisms for production and review of EBS and FOSL or FOST.

6.24.2 Rationale

As stated above, parcel EBSs will be required for many parcels. The BCT needs to establish methods of producing these EBSs, FOSLs and FOSTs and methods for review and approval of these documents.

6.24.3 Status/Strategy

The BCT will meet and establish both short term and long term procedures for the production and review of EBSs, FOSLs, and FOSTs. Options include in-house preparation by the BEC office with the support of the BCT, in-house preparation by either the USAEC or NED, USACE at the direction of the BEC, preparation by the activity gaining the property, or contracting for preparation. The BCT will decide upon an option or mix of options that will be used to update the EBS and prepares and review FOSLs and FOSTs. These decisions will be incorporated into Version II of the BCP.

6.25 Implementing the Policy for On-Site Decision Making

All members of the BCT fully support the policy for on-site decision making. However, at this time delegation of authority from Headquarters, Department of the Army (DA) or Headquarters USEPA to sign RODs or other decision documents has not occurred.

6.25.1 BCT Action Items

The BCT needs to determine if delegation of authority will occur, and if it does occur, what levels of review and concurrence will be required.

6.25.2 Rationale

The delegation of authority, as specified in the BCP guidance is a key element in accelerating the restoration of Fort Devens and releasing the property for reuse as soon as soon as possible. Time spent in the review and approval process could be expedited.

6.25.3 Status/Strategy

The BCT is awaiting further guidance on the delegation of authority from Headquarters DA and USEPA. When received, the guidance will be reviewed to determine the level of review and concurrence required. The BCT will undertake programs to implement the policy, when delegation of authority and/or guidance is received.

6.26 Structural and Infrastructure Constraints to Reuse

At the present time, no structural or infrastructure constraints to reuse of Fort Devens have been identified.

6.26.1 BCT Action Items

If structural and infrastructure constraints to reuse of Fort Devens are identified, the BCT will evaluate approaches for overcoming these constraints, or for alternative reuses, so the property can be transferred.

6.26.2 Rationale

Potential structural and infrastructural constraints must be overcome, or alternative reuses must be identified, to allow transfer of Fort Devens property.

6.26.3 Status/Strategy

At the present time, no structural or infrastructural constraints to reuse of Fort Devens have been identified.

6.27 Other Technical Reuse Issues to be Resolved

This section of the BCT discusses issues relating to the co-location of the BCT.

6.27.1 BCT Action Items

The BRAC Cleanup Plan Guidebook and subsequent guidance have indicated a strong desire for co-location of BCT members at the installation. Resources have not been applied to develop such a process. At Fort Devens, the installation has made space available for the USEPA and MADEP, but additional resources such as funds for administrative support, upgrade of facilities to minimum requirements, etc. have not been made available to the Army or other members of the BCT.

6.27.2 Rationale

Other BCTs at installations similar to Fort Devens may have faced issues similar to those facing the Fort Devens BCT, and may have developed unique methods of resolutions. The opportunity to interface with bases similar to Devens may be of benefit to all through the exchange of ideas.

Fort Devens has supported co-location of the BCT at Fort Devens to a limited degree. Additional resources are needed to expand this support.

6.27.3 Status/Strategy

The BCT proposes that the DoD provide guidance and/or additional resources to support co-location of the BCT at Fort Devens. The BCT would like DoD to sponsor smaller conferences where a limited number (perhaps 3-4) of installations with similar issues could get together and discuss resolution of these issues.

CHAPTER 7

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Arthur D. Little, Inc., 1993e. Final Supplemental Health and Safety Plan, Main Post Site Investigation, Fort Devens, Massachusetts; prepared for USAEC; April.

Arthur D. Little, Inc., 1993f. Final Supplemental Quality Assurance Project Plan, Main Post Site Investigation, Fort Devens, Massachusetts; prepared for USAEC; April.

Ecology & Environment, Inc., 1992a. Risk Assessment Approach for the Shepley's Hill and Cold Spring Brook Landfill Sites. Fort Devens. Massachusetts; prepared for USAEC; February.

Ecology & Environment, Inc., 1992b. Draft Site Investigation Report for Study Areas 15. 24. 25. 26. 32. 48. Fort Devens Massachusetts; prepared for USAEC; March.

Ecology & Environment, Inc., 1992c. Draft Remedial Investigation Report for Areas of Contamination 4. 5. 18. 40. Fort Devens. Massachusetts; prepared for USAEC; June.

Ecology & Environment, Inc., 1992d. Draft Supplemental Remedial Investigation and Feasibility Study Work Plans for Areas of Contamination 25. 26. 32. Fort Devens Massachusetts; prepared for USAEC; August.

Ecology & Environment, Inc., 1992e. Draft Final Site Investigation Report for Study Areas 15. 24. 25. 26. 32. 48. Fort Devens Massachusetts; prepared for USAEC; September.

Ecology & Environment, Inc., 1992f. Draft Final Supplemental Remedial Investigation and Feasibility Study Work Plans for Areas of Contamination 25. 26. 32. Fort Devens Massachusetts; prepared for USAEC; November.

Ecology & Environment, Inc., 1992g. Final Site Investigation Report for Study Areas 15. 24. 25. 26. 32. 48. Fort Devens Massachusetts; prepared for USAEC; December.

Ecology & Environment, Inc., 1992h. Draft Final Remedial Investigation Report for Areas of Contamination 4. 5. 18. 40. Fort Devens. Massachusetts; prepared for USAEC; December.

Ecology & Environment, Inc., 1993a. Final Supplemental Remedial Investigation and Feasibility Study Work Plans for Areas of Contamination 25. 26. 32. Fort Devens Massachusetts; prepared for USAEC; March.

Ecology & Environment, Inc., 1993b. Final Remedial Investigation Report for Areas of Contamination 4. 5. 18. 40. Fort Devens. Massachusetts; prepared for USAEC; April.

Engineering Technologies Associates, Inc., 1992. Ground Water Flow Model at Fort Devens. Massachusetts; prepared for USAEC; October.

PRC Environmental Management, Inc., 1992. Fort Devens Interagency Workshop. Lenox. Massachusetts; December.

USAEC, 1992a. Action Memorandum. Removal Action. Study Area 32. Fort Devens. Massachusetts; October (signed on October 26, 1992).

USAEC, 1992b. Action Memorandum. Removal Action. Study Area 50. Fort Devens. Massachusetts; November (signed on November 24, 1992).

USAEC, 1992c. Action Memorandum, Removal Action. Study Area 15 and Study Area 48. Fort Devens. Massachusetts; October (signed on December 2, 1992).

USAEC, 1993. Final Decision Document No Further Action Under Comprehensive Environmental Response. Compensation and Liability Act Study Area 24 (Bunker 187) Fort Devens. Massachusetts; January (signed by Fort Devens' Commander on February 22, 1993; concurred by EPA on March 8, 1993)

Roy F. Weston, Inc., 1992. Enhanced Preliminary Assessment. Fort Devens. Massachusetts; prepared for USAEC; April.

APPENDIX A

► FISCAL YEAR FUNDING REQUIREMENTS/COSTS ◀

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TABLE A-1. TOTAL ENVIRONMENTAL PROGRAM SUMMARY

FUND REQUIREMENTS (\$000)								
Program	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	Total
IRP DERA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IRP BRAC	18581.90	11410.00	7193.00	7179.00	1040.00	0.00	0.00	45403.90
EC-CR	155.00	540.00	500.00	250.00	250.00	0.00	0.00	1695.00
EC-MR	2029.10	1425.00	1825.00	1150.00	825.00	0.00	0.00	7254.10
NAT/CULT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	20766.00					0.00	0.00	54353.00

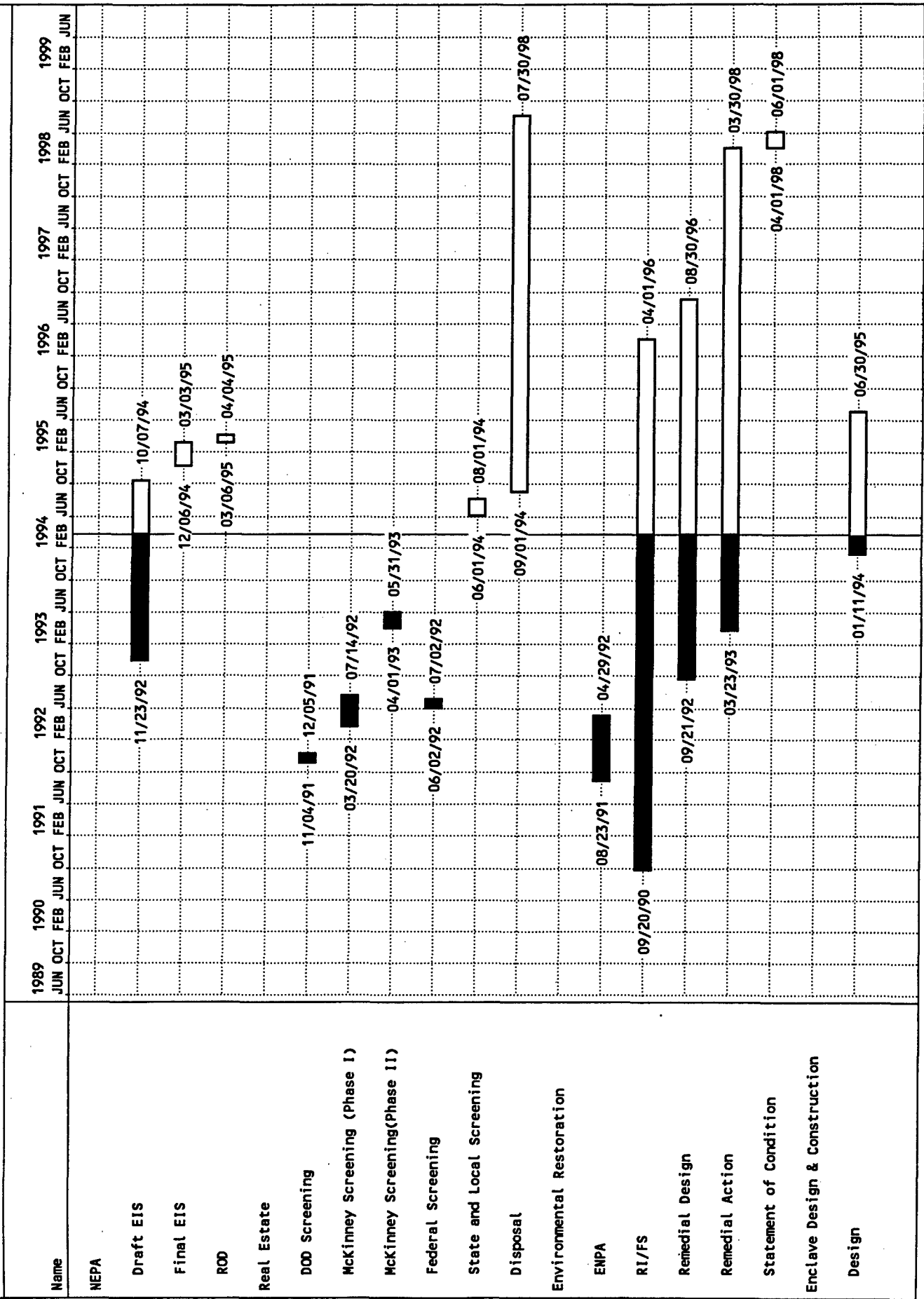
TABLE A-2. HISTORICAL ENVIRONMENTAL PROGRAM EXPENDITURES SUMMARY

FUND REQUIREMENTS (\$000)									
Program	FY 1985	FY 1986	FY 1987	FY 1988	FY 1989	FY 1990	FY 1991	FY 1992	Total
IRP DERA	0.00	0.00	0.00	0.00	278.50	1662.40	3321.60	104.00	5366.50
IRP BRAC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4863.00	4863.00
EC-CR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EC-MR	2424.70	82.80	1176.80	1140.40	1819.00	1536.80	3368.20	3347.00	14896.50
NAT/CULT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	2424.70	82.80	1176.80	1140.40	2098.30	3199.20	6689.80	8314.00	25126.00

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PROJECT: Fort Devens
 MANAGER: James Chambers
 CURRENT DATE: 03/25/94
 AS OF DATE: 03/25/94

Figure A-1



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APPENDIX B

► INSTALLATION ENVIRONMENTAL RESTORATION DOCUMENTS SUMMARY TABLES ◀

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TABLE B-1. PROJECT DELIVERABLES

Year	Phase	Project Title	Report No.	Study Areas examined	Delivery Date/By Whom
1992	PA	Master Environmental Plan for Fort Devens	1	Groups 1A, 1B, 2-12	April 1992/Argonne National Laboratory
1992	PA	Enhanced Preliminary Assessment	2	Groups 1A, 1B, 2-12, Site 59, AREE 60-69	April 1992/Roy F. Weston, Inc.
1992	SI	Final Task Order (Site Investigation) Work Plan	3	Groups 3, 5 & 6 [38, 44, 52, 9, 19, 20, 21, 30, 31, 47, 50]	September 1992/ABB Environmental Services, Inc.
1992	RI/FS	Final Feasibility Study Work Plan	4	Group 1A [4, 5, 18, & 40]	August 1992/ABB Environmental Services, Inc.
1992	RI/FS	Draft Fish Tissue Sampling and Analysis Work Plan	5	Group 1A [4, 5, 18, & 40]	September 1992/ABB Environmental Services, Inc.
1992	SI	SI Data Package	6	Groups 3, 5 & 6 [38, 44, 52, 9, 19, 20, 21, 30, 31, 47, 50]	December 1992/ABB Environmental Services, Inc.
1992	SI	Final Task Order (Site Investigation) Work Plan	7	Groups 2 & 7 [13, 45, 49, 56, 57, 58, 12, 14, 27, 28, 41, & 42]	December 1992/ABB Environmental Services, Inc.
1992	SI	Final Task Order (Site Investigation) Work Plan	8	SA 43 - Historic Gas Stations	December 1992/ABB Environmental Services, Inc.
1992	SI	Final Project Operations Plan - Volumes I, II and III	9	Installation-wide	December 1992/ABB Environmental Services, Inc.
1993	SI	SI Data Packages - Volumes I & II	10	Groups 2 & 7 [13, 45, 49, 56, 57, 58, 12, 14, 27, 28, 41, 42, & Historic Gas Stations]	January 1993/ABB Environmental Services, Inc.
1993	RI/FS	Final Data Gap Activities Work Plan	11	Group 1A [4, 5, 18, & 40]	March 1993/ABB Environmental Services, Inc.
1993	SI	Final Site Investigation Report - Volumes I, II and III	12	Groups 3, 5 & 6 [38, 44, 52, 9, 19, 20, 21, 30, 31, 47, 50]	April 1993/ABB Environmental Services, Inc.
1993	SI	Final Site Investigation Report - Volumes I, II, III and IV	13	Groups 2 & 7 [13, 45, 49, 56, 57, 58, 12, 14, 27, 28, 41, 42, & Historic Gas Stations]	May 1993/ABB Environmental Services, Inc.
1993	RI/FS	Draft Alternatives Screening Report	14	Group 1A [4, 5, 18, & 40]	July 1993/ABB Environmental Services, Inc.
1993	EIS	Biological and Endangered Species Baseline Study	15	Installation-wide	August 1993/ABB Environmental Services, Inc.
1993	SI	Supplemental SI Data Package	16	Study Areas 38, 44, 52, 21, & 50	September 1993/ABB Environmental Services, Inc.

TABLE B-1. PROJECT DELIVERABLES**Continued**

Year	Phase	Project Title	Report No.	Study Areas examined	Delivery Date/By Whom
1993	RI/FS	Draft Railroad Roundhouse Site Investigation Report	17		September 1993/ABB Environmental Services, Inc.
1993	FS	Biological Treatability Study Report	18	AOCs 44 & 52	September 1993/ABB Environmental Services, Inc.
1993	RI/FS	Final RI Addendum Report - Volumes I, II, III & IV	19	Group 1A [4, 5, 18, & 40]	December 1993/ABB Environmental Services, Inc.
1993	SI	No Further Action Decision Under CERCLA	20	Study Area 30	December 1993/ABB Environmental Services, Inc.
1993	SI	No Further Action Decision Under CERCLA	21	Study Area 9	December 1993/ABB Environmental Services, Inc.
1993	SI	No Further Action Decision Under CERCLA	22	Study Area 47	December 1993/ABB Environmental Services, Inc.
1994	SI	No Further Action Decision Under CERCLA	23	Study Area 28	January 1994/ABB Environmental Services, Inc.
1994	SI	No Further Action Decision Under CERCLA	24	Study Area 58	January 1994/ABB Environmental Services, Inc.
1994	SI	Draft No Further Action Decision Under CERCLA	25	Study Areas 19, 20 & 21	January 1994/ABB Environmental Services, Inc.
1994	SI	Draft No Further Action Decision Under CERCLA	26	Study Area 31	January 1994/ABB Environmental Services, Inc.
1994	FS	Final Siting Study Report for Central Soil Treatment Facility	27	AOCs 44 & 52	January 1994/ABB Environmental Services, Inc.
1994	FS	General Management Procedures for Excavated Waste Site Soils	28	AOCs 44 & 52	January 1994/ABB Environmental Services, Inc.
1994	FS	Final Feasibility Study Report For AOCs 44 and 52	29	AOCs 44 & 52	January 1994/ABB Environmental Services, Inc.
1994	FS	Draft Excavated Soils Management Plan	30	AOCs 44 & 52	January 1994/ABB Environmental Services, Inc.
1994	FS	Draft Proposed Plan - Barnum Road Maintenance Yards	31	AOCs 44 & 52	January 1994/ABB Environmental Services, Inc.
1994	SI	Supplemental SI Data Package	32	Study Areas 13, 12, 14, 49, 42, 41, 43B, 43D, 43G, 43H, 43I, 43J, 43N, & 43O	January 1994/ABB Environmental Services, Inc.

TABLE B-1. PROJECT DELIVERABLES**Continued**

Year	Phase	Project Title	Report No.	Study Areas examined	Delivery Date/By Whom
1993	RI	Functional Areas I and II	33	AOCs 25, 26, 27, 32, 43A, and SPIA	3/94 Draft Remedial Investigation Report
1993	RI	Functional Areas I and II	34	AOCs 25, 26, 27, 32, 43A, and SPIA	3/94 Draft Initial Screening of Alternatives
1993	FS	Functional Areas I and II	35	AOCs 32, AOC 43A, and SPIA	5/94 Final Initial Screening of Alternatives
1993	FS	Functional Areas I and II	36	AOCs 25, 26, 27, 32, 43A, and SPIA	6/94 Final Remedial Investigation Report
1993	FS	Functional Areas I and II	37	AOCs 32, AOC 43A, and SPIA	7/94 Draft Detailed Screening of Alternatives
1993	FS	Functional Areas I and II	38	AOCs 32, AOC 43A, and SPIA	9/94 Final Detailed Analysis of Alternatives
1993	FS	Functional Areas I and II	39	AOCs 32, AOC 43A, and SPIA	10/94 Draft Feasibility Study Report
1993	FS	Functional Areas I and II	40	AOCs 32, AOC 43A, and SPIA	12/94 Final Feasibility Study Report
1993	SI	Main Post SI	41	SAs 10, 11, 16, 17, 29, 22, 34, 35, 36, 37, 39, 51, 59	Final Supplemental Work Plan, April 1993, ADL
1993	SI	Main Post SI	42	SAs 10, 11, 16, 17, 29, 22, 34, 35, 36, 37, 39, 51, 59	Final Supplemental Quality Assurance Project Plan, June 1993, ADL
1993	SI	Main Post SI	43	SAs 10, 11, 16, 17, 29, 22, 34, 35, 36, 37, 39, 51, 59	Final Supplemental Health and Safety Plan, June 1993, ADL
1993	SI	Main Post SI	44	SAs 10, 11, 16, 17, 29, 22, 34, 35, 36, 37, 39, 51, 59	SI Data Package, September 1993, ADL
1993	SI	Main Post SI	45	SAs 10, 11, 16, 17, 29, 22, 34, 35, 36, 37, 39, 51, 59	Final SI Report, December 1993, ADL
1994	SS/RI	Main Post SSI	46	SAs 17, 39, 51, AOC 11	SSI and RI/FS Work Plan, Supplemental QAPjP, Supplemental HASP, March 1994, ADL
1994	SI	Main Post SI	47	SAs 10, 16, 29, 59	NFA Decision Document, July 1994, ADL
1994	SSI	Main Post SSI	48	SAs 17, 39, 51	SSI Data Package, September 1994, ADL
1994	RI	Risk Assessment, AOC 11	49	AOC 11	Risk Assessment Approach Plan, November 1994, ADL
1994	SSI	Main Post SSI	50	SAs, 17, 39, 51	Revised Final SI Report, December 1994, ADL
1994	RI	Risk Assessment, AOC 11	51	SAs, 17, 39, 51	NFA Decision Document, May 1995, ADL

TABLE B-1. PROJECT DELIVERABLES**Continued**

Year	Phase	Project Title	Report No.	Study Areas examined	Delivery Date/By Whom
1994	SSI	Main Post SSI	52	AOC 11	RI/FS Report, May 1995, ADL
1995	SSI	Main Post SSI	53	AREE 61, 63, 66, 69	Draft Supplemental Work Plan, April 1993, ADL
1995	RI	RI/FS, AOC 11	54	AREE 61, 63, 66, 69	Final Supplemental Quality Assurance Plan, June 1993, ADL
1993	BRAC	BRAC EE	55	AREE 61, 63, 66, 69	Final Supplemental Health and Safety Plan, June 1993, ADL
1993	BRAC	BRAC EE	56	All AREE 61 Sites	Draft Maintenance and Waste Accumulation Areas (AREE 61), November 1993, ADL
1993	BRAC	BRAC EE	57	All AREE 63 Sites	Previously Removed Underground Storage Tank (AREE 63) Draft Report, November 1993, ADL
1993	BRAC	BRAC EE	58	All AREE 63 Sites	Draft Previously Removed Underground Storage Tank (AREE 63) Memorandum Work Plan, October 1993, ADL
1993	BRAC	BRAC EE	59	All AREE 69 Sites	Draft Past Spill Sites Report (AREE 69), October 1993, ADL
1993	BRAC	BRAC EE	60	All AREE 66 Sites	Draft Transformer Study Report (AREE 66), November 1993, ADL
1994	BRAC	BRAC EE (Part II)	61	Main and North Posts	Draft Supplemental Work Plan (AREEs 65 and 67), January 1994, ADL
1994	BRAC	BRAC EE (Part II)	62	Main and North Posts	Final Health and Safety Plan (AREEs 65, 67, and 68), January 1994, ADL
1994	BRAC	BRAC EE (Part II)	63	Main and North Posts	Final QA/QC Plan (AREEs 65 and 67), January 1994, ADL
1994	BRAC	BRAC EE (Part II)	64	Main and North Posts	Final QA/QC Plan (AREE 68), February 1994, ADL
1994	BRAC	BRAC EE	65	All AREE 70 Sites	Draft Stormwater Report System Evaluation (AREE 70), February 1994, ADL

TABLE B-2. SITE DELIVERABLES

Site ID	PA/SI	RI/FS	RD/RA	Close Out	IRA	LTM	NFRAP
SA 1	1, 2, 15						
SA 2	1, 2, 15						
SA 3	1, 2, 15						
AOC 4	1, 2, 9, 15	4, 5, 11, 14, 19					
AOC 5	1, 2, 9, 15	4, 5, 11, 14, 19					
SA 6	1, 2, 15						
SA 7	1, 2, 15						
SA 8	1, 2, 15						
SA 9	1, 2, 3, 6, 9, 12, 15						
SA 10	1, 2, 15, 41, 42, 43, 44, 45, 47						
AOC 11	1, 2, 15, 41, 42, 43, 44, 45	49, 52					
SA 12	1, 2, 7, 9, 10, 13, 15, 32						
SA 13	1, 2, 7, 9, 10, 13, 15, 32						
SA 14	1, 2, 7, 9, 10, 13, 15, 32						
SA 15	1, 2, 15						
SA 16	1, 2, 15, 41, 42, 43, 44, 45, 47						
SA 17	1, 2, 15, 41, 42, 43, 44, 45, 48, 50, 51						
AOC 18	1, 2, 9, 15	4, 5, 11, 14, 19					
SA 19	1, 2, 3, 6, 9, 12, 15						
SA 20	1, 2, 3, 6, 9, 12, 15						

TABLE B-2. SITE DELIVERABLES

Continued

Site ID	PA/SI	RI/FS	RD/RA	Close Out	IRA	LTM	NFRAP
SA 21	1, 2, 3, 6, 9, 12, 15, 16						
SA 22	1, 2, 15						
SA 23	1, 2, 15						
SA 24	1, 2, 15						
AOC 25	1, 2, 15	33, 34, 35, 36					
AOC 26	1, 2, 15	33, 34, 35, 36					
AOC 27	1, 2, 7, 9, 10, 13, 15	33, 34, 35, 36					
SA 28	1, 2, 7, 9, 10, 13, 15						
SA 29	1, 2, 15, 41, 42, 43, 44, 45, 47						
SA 30	1, 2, 3, 6, 9, 12, 15						
SA 31	1, 2, 3, 6, 9, 12, 15						
AOC 32	1, 2, 15	33, 34, 35, 36, 37, 38, 39, 40					
SA 33	1, 2, 15, 41, 42, 43, 44, 45						
SA 34	1, 2, 15, 41, 42, 43, 44, 45						
SA 35	1, 2, 15, 41, 42, 43, 44, 45						
SA 36	1, 2, 15, 41, 42, 43, 44, 45						
SA 37	1, 2, 15, 41, 42, 43, 44, 45						
SA 38	1, 2, 3, 6, 9, 12, 15, 16						
SA 39	1, 2, 15, 41, 42, 43, 44, 45, 46, 48, 50, 51						
AOC 40	1, 2, 9, 15	4, 5, 11, 14, 19					

TABLE B-2. SITE DELIVERABLES

Continued

Site ID	PA/SI	RI/FS	RD/RA	Close Out	IRA	LTM	NFRAP
AOC 41	1, 2, 7, 9, 10, 13, 15, 32						
SA 42	1, 2, 7, 9, 10, 13, 15, 32						
AOC 43A	1, 2, 8, 9, 10, 13, 15	33, 34, 35, 36, 37, 38, 39, 40					
SA 43B	1, 2, 8, 9, 10, 13, 15, 32						
SA 43C	1, 2, 8, 9, 10, 13, 15						
SA 43D	1, 2, 8, 9, 10, 13, 15, 32						
SA 43E	1, 2, 8, 9, 10, 13, 15						
SA 43F	1, 2, 8, 9, 10, 13, 15						
SA 43G	1, 2, 8, 9, 10, 13, 15, 32						
SA 43H	1, 2, 8, 9, 10, 13, 15, 32						
SA 43I	1, 2, 8, 9, 10, 13, 15, 32						
SA 43J	1, 2, 8, 9, 10, 13, 15, 32						
SA 43K	1, 2, 8, 9, 10, 13, 15						
SA 43L	1, 2, 8, 9, 10, 13, 15						
SA 43M	1, 2, 8, 9, 10, 13, 15						
SA 43N	1, 2, 8, 9, 10, 13, 15, 32						
SA 43O	1, 2, 8, 9, 10, 13, 15, 32						
SA 43P	1, 2, 8, 9, 10, 13, 15						

TABLE B-2. SITE DELIVERABLES

Continued

Site ID	PA/SI	RI/FS	RD/RA	Close Out	IRA	LTM	NFRAP
SA 43Q	1, 2, 8, 9, 10, 13, 15						
SA 43R	1, 2, 8, 9, 10, 13, 15						
SA 43S	1, 2, 8, 9, 10, 13, 15						
SA 44	1, 2, 3, 6, 9, 12, 15, 16	18, 27, 28, 29, 30, 31					
SA 45	1, 2, 8, 9, 10, 13, 15						
SA 46	1, 2, 15						
SA 47	1, 2, 3, 6, 9, 12, 15						
SA 48	1, 2, 15						
SA 49	1, 2, 8, 9, 10, 13, 15, 32						
SA 50	1, 2, 3, 6, 9, 12, 15, 16						
SA 51	1, 2, 15, 41, 42, 43, 44, 45, 46, 48, 50, 51						
SA 52	1, 2, 3, 6, 9, 12, 15, 16	18, 27, 28, 29, 30, 31					
SA 53	1, 2, 15						
SA 54	1, 2, 15						
SA 55	1, 2, 15						
SA 56	1, 2, 8, 9, 10, 13, 15						
SA 57	1, 2, 8, 9, 10, 13, 15						
SA 58	1, 2, 8, 9, 10, 13, 15						
SA 59	2, 15, 41, 42, 43, 44, 45, 47						
AREE 60	2, 15						
AREE 61	2, 15, 53, 54, 55, 56						
AREE 62	2, 15						
AREE 63	2, 15, 53, 54, 55, 57, 58						

TABLE B-2. SITE DELIVERABLES**Continued**

Site ID	PA/SI	RI/FS	RD/RA	Close Out	IRA	LTM	NFRAP
AREE 64	2, 15						
AREE 65	2, 15, 61, 62, 63, 64						
AREE 66	2, 15, 53, 54, 55, 60						
AREE 67	2, 15, 61, 62, 63, 64						
AREE 68	2, 15, 61, 62, 63, 64						
AREE 69	2, 15, 53, 54, 55, 59						
AREE 70	15, 65						

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APPENDIX C

► DECISION DOCUMENT/ROD SUMMARIES ◀

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DECISION DOCUMENT
NO FURTHER ACTION UNDER
COMPREHENSIVE ENVIRONMENTAL RESPONSE,
COMPENSATION AND LIABILITY ACT
STUDY AREA 24 (BUNKER 187)
FORT DEVENS MASSACHUSETTS

Final

January 1993

Prepared By:

United States Army Environmental Center
formerly United States Army
Toxic and Hazardous Materials Agency

APPENDIX D

► NO FURTHER RESPONSE ACTION PLANNED (NFRAP) SUMMARIES ◀

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**NO FURTHER ACTION DECISION
UNDER CERCLA**

**FORT DEVENS STUDY AREA 09
NORTH POST LANDFILL
DATA ITEM A009**

CONTRACT DAAA15-91-D-0008

**U.S. ARMY ENVIRONMENTAL CENTER
ABERDEEN PROVING GROUND, MARYLAND**

DECEMBER 1993

PRINTED ON RECYCLED PAPER

**NO FURTHER ACTION DECISION
UNDER CERCLA
STUDY AREA 09
NORTH POST LANDFILL
FORT DEVENS, MASSACHUSETTS**

Prepared for:

U.S. Army Environmental Center
Aberdeen Proving Ground, Maryland
Contract DAAA15-91-0008

Prepared by:

ABB Environmental Services, Inc.
Wakefield, Massachusetts
Project No. 6917-11

DECEMBER 1993

EXECUTIVE SUMMARY

Investigations of Study Area 09 (North Post Landfill) at Fort Devens Massachusetts have resulted in the decision that no further hazardous waste studies or remediation are required at this site. Any further action should be addressed under applicable solid waste regulations and standards. Study Area 09 was identified in the Federal Facilities Agreement between the U.S. Environmental Protection Agency and the U.S. Department of Defense as a potential site of contamination.

Fort Devens was placed on the National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act on December 21, 1989. In addition, under Public Law 101-510, the Defense Base Realignment and Closure Act of 1990, Fort Devens was selected for cessation of operations and closure. In accordance with these acts, numerous studies, including a Master Environmental Plan, an Enhanced Preliminary Assessment, and a Site Investigation have been conducted which address Study Area 09.

Field Investigation of Study Area 09 was initiated in 1992 in conjunction with the other ten Group 3, 5 and 6 Study Areas at Fort Devens. The Study Area 09 site investigations consisted of both Study Area-specific investigations (geophysical surveys, monitoring wells, test pits, and surface water and sediment sampling near the landfill) and non-Study Area-specific investigations of the whole Group 5 area (existing monitoring wells and sampling of surface water and sediment in the Nashua River).

A geophysical survey was conducted at the landfill to supplement information derived from evaluation of aerial photographs and delineate the actual limits of the landfill. The results of the survey assisted in the placement of test pits and groundwater monitoring wells, and provided insight into the distribution of landfilled materials.

Three soil borings for monitoring wells were drilled just outside the limits of the North Post Landfill (to avoid penetrating landfill materials), to approximately 10 feet below the water table. Two rounds of groundwater samples and water table measurements, collected three months apart, were collected from the three new monitoring wells and 16 existing monitoring wells. The 16 existing monitoring wells had been previously installed to evaluate the effectiveness of the wastewater treatment plant (Study Area 19). The samples were analyzed for project analyte list organics, inorganics, anions/cations, explosives and water quality parameters; and total petroleum hydrocarbon compounds,

ABB Environmental Services, Inc.

EXECUTIVE SUMMARY

total suspended solids, and total- and fecal-coliform bacteria. Due to cross-contamination during the second sampling round a third round of groundwater samples was collected for volatile organic compounds only.

Three sets of surface water and sediment samples were collected from a swampy area to the southwest of the landfill. The surface water samples were analyzed for organics, inorganics, total petroleum hydrocarbon compounds, total suspended solids, explosives, and water quality parameters. Sediment samples were analyzed for organics, inorganics, total petroleum hydrocarbon compounds, total organic carbon, and explosives.

To further characterize the nature of soils and landfilled materials, four test pits were excavated in areas where landfilled material was identified during the geophysical surveys. A total of eight soil samples were collected from the test pits for laboratory analysis. The samples were analyzed for organics, inorganics, and total petroleum hydrocarbon compounds.

Ten sets of surface water and sediment samples were collected from the Nashua River. Sample locations were spaced along the Nashua River both upgradient and downgradient of the Group 5 Study Areas, as a means of assessing contaminated groundwater discharging to the river. Surface water and sediment samples were submitted for analysis of organics, inorganics, explosives, and total petroleum hydrocarbon compounds. In addition, surface water samples were analyzed for water quality parameters, total and fecal coliform bacteria, and total suspended solids.

Sampling and analysis during the site investigation indicated that some organic polynuclear aromatic hydrocarbons and inorganic (beryllium) analytes are present in the study area subsurface soil at concentrations exceeding human health guidelines. These contaminants were likely derived from unspecified landfill material, but exposure to these contaminants is expected to be minimal under foreseeable site use scenarios. Furthermore, the landfilled material has been present on site for an extended period of time and has had no significant impact to groundwater quality. Groundwater samples from monitoring well locations in the subject area do not indicate that organic contamination from former landfilling operations has impacted groundwater. Although inorganic analytes are elevated in groundwater at all locations, their presence in samples can be readily explained by the high total suspended solid concentrations (inorganic particulates). Arsenic is present in groundwater at a concentration exceeding drinking water standards but is detected in only an upgradient well location and is therefore not considered to be attributable to Study Area 09.

ABB Environmental Services, Inc.

EXECUTIVE SUMMARY

On the basis of findings at Study Area 09 and Preliminary Risk Evaluations performed, there is no evidence or reason to conclude that possible hazardous waste contamination due to contents in the landfill has caused significant environmental contamination or poses a threat to human health or the environment. The decision has been made to remove Study Area 09 from further consideration in the Installation Restoration Program process and that any further action be addressed under applicable solid waste regulations and standards.

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NO FURTHER ACTION DECISION UNDER CERCLA

**FORT DEVENS STUDY AREA 28
WASTE EXPLOSIVES DETONATION RANGE
(TRAINING AREA 14)**

DATA ITEM A009

CONTRACT DAAA15-91-D-0008

**U.S. ARMY ENVIRONMENTAL CENTER
ABERDEEN PROVING GROUND, MARYLAND**

JANUARY 1994

PRINTED ON RECYCLED PAPER

**NO FURTHER ACTION DECISION UNDER CERCLA
STUDY AREA 28
WASTE EXPLOSIVES DETONATION RANGE
(TRAINING AREA 14)**

FORT DEVENS, MASSACHUSETTS

Prepared for:

U.S. Army Environmental Center
Aberdeen Proving Ground, Maryland
Contract DAAA15-91-D-0008

Prepared by:

ABB Environmental Services, Inc.
Portland, Maine
Project No. 7053-12

JANUARY 1994

EXECUTIVE SUMMARY

Study Area 28 (one of the 13 Groups 2 and 7 Study Areas) was identified in the Federal Facilities Agreement between the U.S. Environmental Protection Agency and the U.S. Department of Defense as a potential site of contamination. Investigations of Study Area 28 (Waste Explosives Detonation Range [Training Area 14]) at Fort Devens Massachusetts have resulted in the decision that no further hazardous waste studies are required at this site. Any further action should be addressed under applicable Resource Conservation and Recovery Act explosive ordnance disposal closure regulations and standards.

Fort Devens was placed on the National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act on December 21, 1989. In addition, under Public Law 101-510, the Defense Base Realignment and Closure Act of 1990, Fort Devens was selected for cessation of operations and closure. In accordance with these acts, numerous studies, including a Master Environmental Plan, an Enhanced Preliminary Assessment, and a Site Investigation have been conducted which address Study Area 28.

Field investigation of Study Area 28 was initiated in 1992 in conjunction with the other twelve Groups 2 and 7 Study Areas at Fort Devens. The Study Area 28 site investigation activities included unexploded ordnance clearing, soil excavation, subsurface soil sampling, monitoring well installation, and groundwater sampling.

Two test pit excavations were dug in each of the two largest impact craters/burn pits identified at Study Area 28. These test pits were excavated by hand to four feet below ground surface and two soil samples were collected from each test pit. The soil samples were analyzed for Project Analyte List organics, inorganics, total petroleum hydrocarbon compounds, and explosives.

Four soil borings were advanced (one upgradient and three downgradient or cross-gradient) in the study area for the purpose of installing groundwater monitoring wells. Two rounds of groundwater samples and water table measurements, three months apart, were collected from the four monitoring wells. The groundwater samples were analyzed for Project Analyte List organics, inorganics, anions/cations, explosives, and total petroleum hydrocarbon compounds.

EXECUTIVE SUMMARY

Sampling and analysis performed on soil and groundwater samples collected during the site investigation indicated that there is no evidence of SA-derived organic compound concentrations exceeding human health guidelines [bis(2-ethylhexyl)phthalate detected in groundwater was determined to be a laboratory contaminant]. Only beryllium in subsurface soil exceeded both background concentrations and human health risk guidelines. However, the detected concentration only slightly exceed the human health risk-based guideline. Aluminum and iron were detected in groundwater at concentrations exceeding background and secondary Maximum Contaminant Level guideline, however, these concentrations are not expected to pose a significant threat to human health. Two inorganic analytes, copper and zinc, detected in surface soils were determined to exceed established ecological benchmark values. Due to the limited ecological habitat present in the vicinity of the impact craters/burn pits where the contaminants were found, these exceedances are not considered to pose significant ecological risk.

On the basis of findings at Study Area 28 and Preliminary Risk Evaluations performed, there is no evidence or reason to conclude that possible hazardous waste contamination due to past site activities has caused significant environmental contamination or poses a threat to human health or the environment. The decision has been made to remove Study Area 28 from further investigation under the Comprehensive Environmental Response, Compensation and Liability Act process and that any further action be addressed under applicable Resource Conservation and Recovery Act closure regulations and standards.

ABB Environmental Services, Inc.

**NO FURTHER ACTION DECISION
UNDER CERCLA**

**FORT DEVENS STUDY AREA 30
MOORE ARMY AIRFIELD
DRUM STORAGE AREA
DATA ITEM A009**

CONTRACT DAAA15-91-D-0008

**U.S. ARMY ENVIRONMENTAL CENTER
ABERDEEN PROVING GROUND, MARYLAND**

DECEMBER 1993

PRINTED ON RECYCLED PAPER

**NO FURTHER ACTION DECISION
UNDER CERCLA
STUDY AREA 30
MOORE ARMY AIRFIELD DRUM STORAGE AREA
FORT DEVENS, MASSACHUSETTS**

Prepared for:

**U.S. Army Environmental Center
Aberdeen Proving Ground, Maryland
Contract DAAA15-91-D-0008**

Prepared by:

**ABB Environmental Services, Inc.
Wakefield, Massachusetts
Project No. 6917-11**

DECEMBER, 1993

EXECUTIVE SUMMARY

Investigations of Study Area 30 (Moore Army Airfield Drum Storage Area) at Fort Devens Massachusetts have resulted in the decision that no further studies or remediation are required at this site. Study Area 30 was identified in the Federal Facilities Agreement between the U.S. Environmental Protection Agency and the U.S. Department of Defense as a potential site of contamination.

Fort Devens was placed on the National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act on December 21, 1989. In addition, under Public Law 101-510, the Defense Base Realignment and Closure Act of 1990, Fort Devens was selected for cessation of operations and closure. In accordance with these acts, numerous studies, including a Master Environmental Plan, and Enhanced Preliminary Assessment, and a Site Investigation have been conducted which address Study Area 30.

Field Investigation of Study Area 30 was initiated in 1992 in conjunction with the other ten Group 3, 5 and 6 Study Areas at Fort Devens. Investigation at Study Area 30 entailed installing a total of two monitoring wells and eight soil borings in the east and west drum storage areas. Nine other wells were installed as part of the group-wide water quality assessment at the airfield. To evaluate the potential impact of contaminant migration from Study Area 30 to the Nashua River, surface water and sediment samples were collected from the Nashua River.

Total petroleum hydrocarbon compound concentrations in soil samples were observed to be generally low; the highest concentration of 171 micrograms per gram was detected in a surface soil sample in the east drum storage area. Many of the other samples exhibited total petroleum hydrocarbon compound concentrations near or below the detection limit. Organic compounds (toluene, xylene, and polynuclear aromatic hydrocarbons) were observed predominantly in surface soils in unpaved areas. Concentrations of these analytes decrease with, or are absent at depth. The current volatile organic compound distribution suggests that downward migration may have occurred in two well borings but significant concentrations are not observed at depth. The poor correlation between polynuclear aromatic hydrocarbons and total petroleum hydrocarbon compounds distribution in surface soils suggests that airborne combustion product deposition is a likely source for the polynuclear aromatic hydrocarbons. The absence of polynuclear aromatic hydrocarbons in the west is likely the result of pavement

ABB Environmental Services, Inc.

EXECUTIVE SUMMARY

cover there. The absence of chlorinated solvents in all of the soils suggests that releases of those compounds have not occurred in this study area. Inorganic analyte concentrations in Study Area 30 soil samples were observed to be generally at or below calculated background concentrations for Fort Devens soils. Elevated concentrations of sodium (maximum 487 micrograms per gram) in soil are likely be the result of runway and taxiway de-icing. The source of the slightly elevated concentrations of beryllium (maximum 0.847 micrograms per gram) in soil is not known.

Based on groundwater analytical data it is apparent that no observable contamination of groundwater has occurred as a result of potential releases from drummed waste in Study Area 30.

The results of sediment sampling support the conclusion that contaminant migration via storm and surface water runoff from the airfield and other upstream sources is a likely source of sediment contamination in the Nashua River; the specific source area for this contamination cannot be determined however, due to the large number of stormwater connections. Surface water and sediment in the Nashua River will be further investigated under Area Requiring Environmental Evaluation 70.

Ecological and human health Preliminary Risk Evaluations found no unacceptable risk associated with volatile organic compounds. Polynuclear aromatic hydrocarbon concentrations detected in surficial soils exceeded both human health and ecological guidelines, but are likely the result of combustion product deposition and not historical Study Area 30 activities.

In summary, based on the results of the investigation and Preliminary Risk Evaluations performed for Study Area 30, there is no evidence or reason to conclude that historical site operations conducted at Study Area 30 have resulted in significant environmental contamination which poses a threat to human health or the environment.

**NO FURTHER ACTION DECISION UNDER
CERCLA**

**FORT DEVENS HISTORIC GAS STATIONS
STUDY AREAS 43C, E, F, K, L, M, P, Q, R, S**

DATA ITEM A009

CONTRACT DAAA15-91-D-0008

**U.S. ARMY ENVIRONMENTAL CENTER
ABERDEEN PROVING GROUND, MARYLAND**

JANUARY 1994

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**NO FURTHER ACTION UNDER CERCLA
STUDY AREA 43C
HISTORIC GAS STATION SITES
FORT DEVENS, MASSACHUSETTS**

Prepared for:

**U.S. Army Environmental Center
Aberdeen Proving Ground, Maryland
Contract DAAA15-91-0008**

Prepared by:

**ABB Environmental Services, Inc.
Portland, Maine
Project No. 7053-12**

JANUARY 1994

EXECUTIVE SUMMARY

Investigations of Study Area 43C (Historic Gas Station Site) at Fort Devens, Massachusetts have resulted in the decision that no further hazardous waste studies or remediation are required at this site. Study Area 43C was identified in the Federal Facilities Agreement between the U.S. Environmental Protection Agency and the U.S. Department of Defense as a potential site of contamination.

Fort Devens was placed on the National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act on December 21, 1989. In addition, under Public Law 101-510, the Defense Base Realignment and Closure Act of 1990, Fort Devens was selected for cessation of operations and closure. In accordance with these acts, numerous studies, including a Master Environmental Plan, an Enhanced Preliminary Assessment, and a Site Investigation, have been conducted which address Study Area 43C.

Field investigation of Study Area 43C was initiated in 1992 in conjunction with the other 12 Groups 2, 7, and Historic Gas Stations Study Areas at Fort Devens. The Study Area 43C site investigation consisted of surficial geophysical surveys, which included a metal detector and ground penetrating radar survey.

The geophysical surveys indicated that one abandoned underground storage tank was present on the southern side of the existing pumphouse. This tank was removed by ATEC Environmental Consultants on August 27, 1992. ATEC performed field screening for volatile organic compounds and total petroleum hydrocarbons on eight soil samples collected from the walls of the excavation. One soil and one groundwater sample from the bottom of the excavation were collected for confirmatory laboratory analysis. The soil sample was analyzed for total petroleum hydrocarbons and the groundwater sample was analyzed for volatile organic compounds and total petroleum hydrocarbons. No volatile organic compounds were detected in groundwater and total petroleum hydrocarbon results were below the detection limit of the method. ABB Environmental Services, Inc. collected one composite sample from the bottom of the excavation for off-site laboratory analysis. Total petroleum hydrocarbons were detected at 78.2 parts per million. Based on ATEC Environmental Consultants' sampling results, the excavation was backfilled and no further site investigation was conducted.

ABB Environmental Services, Inc.

EXECUTIVE SUMMARY

On the basis of findings at Study Area 43C and the Preliminary Risk Evaluation, there is no evidence or reason to conclude that petroleum contamination due to the former underground storage tank has caused significant environmental contamination or poses a threat to human health. The decision has been made to remove Study Area 43C from further consideration in the Installation Restoration Program.

ABB Environmental Services, Inc.

**NO FURTHER ACTION DECISION UNDER CERCLA
STUDY AREA 43E
HISTORIC GAS STATION SITES
FORT DEVENS, MASSACHUSETTS**

Prepared for:

**U.S. Army Environmental Center
Aberdeen Proving Ground, Maryland
Contract DAAA15-91-0008**

Prepared by:

**ABB Environmental Services, Inc.
Portland, Maine
Project No. 7053-12**

JANUARY 1994

EXECUTIVE SUMMARY

Investigations of Study Area 43E (Historic Gas Station Site) at Fort Devens, Massachusetts have resulted in the decision that no further hazardous waste studies or remediation are required at this site. Study Area 43E was identified in the Federal Facilities Agreement between the U.S. Environmental Protection Agency and the U.S. Department of Defense as a potential site of contamination.

Fort Devens was placed on the National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act on December 21, 1989. In addition, under Public Law 101-510, the Defense Base Realignment and Closure Act of 1990, Fort Devens was selected for cessation of operations and closure. In accordance with these acts, numerous studies, including a Master Environmental Plan, an Enhanced Preliminary Assessment, and a Site Investigation, have been conducted which address Study Area 43E.

-) Field investigation of Study Area 43E was initiated in 1992 in conjunction with the other 12 Groups 2, 7, and Historic Gas Stations Study Areas at Fort Devens. The Study Area 43E site investigation consisted of surficial geophysical surveys, which included a metal detector and ground penetrating radar survey.

The geophysical surveys indicated that one abandoned underground storage tank was present on the northern side of Building 2020. This tank was removed by ATEC Environmental Consultants on September 3, 1992. No visually contaminated soil was observed in the excavation, and groundwater was not encountered. ATEC Environmental Consultants performed field screening for volatile organic compounds and total petroleum hydrocarbons on 10 soil samples collected from the walls of the excavation. The photoionization detector headspace screening showed volatile organic compound concentrations ranging from 0.2 to 0.5 parts per million. Total petroleum hydrocarbons were detected at concentrations ranging from 4.8 to 43.5 parts per million. ABB Environmental Services, Inc. collected one composite sample from the bottom of the excavation for off-site laboratory analysis. Total petroleum hydrocarbons were detected at 85 parts per million. Based on ATEC Environmental Consultants' sampling results, the excavation was backfilled. Because total petroleum hydrocarbon

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EXECUTIVE SUMMARY

concentrations were below 100 parts per million, no further site investigation was conducted.

On the basis of findings at Study Area 43E and the Preliminary Risk Evaluation, there is no evidence or reason to conclude that petroleum contamination due to the former underground storage tank has caused significant environmental contamination or poses a threat to human health. The decision has been made to remove Study Area 43E from further consideration in the Installation Restoration Program.

ABB Environmental Services, Inc.

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**NO FURTHER ACTION DECISION UNDER CERCLA
STUDY AREA 43F
HISTORIC GAS STATION SITES
FORT DEVENS, MASSACHUSETTS**

Prepared for:

U.S. Army Environmental Center
Aberdeen Proving Ground, Maryland
Contract DAAA15-91-0008

Prepared by:

ABB Environmental Services, Inc.
Portland, Maine
Project No. 7053-12

JANUARY 1994

EXECUTIVE SUMMARY

Investigations of Study Area 43F (Historic Gas Station Site) at Fort Devens, Massachusetts have resulted in the decision that no further hazardous waste studies or remediation are required at this site. Study Area 43F was identified in the Federal Facilities Agreement between the U.S. Environmental Protection Agency and the U.S. Department of Defense as a potential site of contamination.

Fort Devens was placed on the National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act on December 21, 1989. In addition, under Public Law 101-510, the Defense Base Realignment and Closure Act of 1990, Fort Devens was selected for cessation of operations and closure. In accordance with these acts, numerous studies, including a Master Environmental Plan, an Enhanced Preliminary Assessment, and a Site Investigation, have been conducted which address Study Area 43F.

Field investigation of Study Area 43F was initiated in 1992 in conjunction with the other 12 Groups 2, 7, and Historic Gas Stations Study Areas at Fort Devens. The Study Area 43F site investigation consisted of collecting subsurface soil samples and soil gas samples for field analysis. Surficial geophysical surveys were not conducted at SA 43F because the historic gas station is located under the current Post Exchange building.

Nine TerraProbe points were advanced along the three accessible sides of the Post Exchange building to seek evidence of possible migration of residual contamination away from the site of the historic gas station (see Figure 2-2).

Seven soil samples were collected from 9 feet and three soil samples were collected from 15 feet. Only one sample was collected from 20 feet due to subsurface obstructions. All of the soil samples collected from SA 43F were analyzed in the field for benzene, toluene, ethylbenzene, and xylenes and total petroleum hydrocarbons. Because the water table was not reached in any of the soil sampling TerraProbe points, soil gas samples were collected from all nine locations and field-screened for benzene, toluene, ethylbenzene, and xylenes only. No soil borings or monitoring wells were completed at this site.

ABB Environmental Services, Inc.

EXECUTIVE SUMMARY

On the basis of findings at Study Area 43F and the Preliminary Risk Evaluation, there is no evidence or reason to conclude that petroleum contamination due to the former underground storage tank has caused significant environmental contamination or poses a threat to human health. The decision has been made to remove Study Area 43F from further consideration in the Installation Restoration Program.

ABB Environmental Services, Inc.

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**NO FURTHER ACTION DECISION UNDER CERCLA
STUDY AREA 43K
HISTORIC GAS STATION SITES
FORT DEVENS, MASSACHUSETTS**

Prepared for:

**U.S. Army Environmental Center
Aberdeen Proving Ground, Maryland
Contract DAAA15-91-0008**

Prepared by:

**ABB Environmental Services, Inc.
Portland, Maine
Project No. 7053-12**

JANUARY 1994

EXECUTIVE SUMMARY

Investigations of Study Area 43K (Historic Gas Station Site) at Fort Devens, Massachusetts have resulted in the decision that no further hazardous waste studies or remediation are required at this site. Study Area 43K was identified in the Federal Facilities Agreement between the U.S. Environmental Protection Agency and the U.S. Department of Defense as a potential site of contamination.

Fort Devens was placed on the National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act on December 21, 1989. In addition, under Public Law 101-510, the Defense Base Realignment and Closure Act of 1990, Fort Devens was selected for cessation of operations and closure. In accordance with these acts, numerous studies, including a Master Environmental Plan, an Enhanced Preliminary Assessment, and a Site Investigation, have been conducted which address Study Area 43K.

Field investigation of Study Area 43K was initiated in 1992 in conjunction with the other 12 Groups 2, 7, and Historic Gas Stations Study Areas at Fort Devens. The Study Area 43K site investigation consisted of a surficial geophysical survey, subsurface soil sampling using ABB Environmental Services, Inc.'s TerraProbe unit, field analysis of the subsurface soil samples, and one soil boring to collect samples for laboratory analysis.

The geophysical survey indicated that one abandoned underground storage tank was present at the site. This tank was removed by ATEC Environmental Consultants on September 3, 1992. ATEC performed field screening for volatile organic compounds and total petroleum hydrocarbons on eight soil samples collected from the walls of the excavation. Volatile organic compound concentrations ranged from 0.5 to 190 parts per million, and total petroleum hydrocarbon concentrations ranged from 22 to 89 parts per million. Based on these results, ATEC removed more soil from the excavation and collected four additional soil samples. Volatile organic compounds ranged from 1 to 4 parts per million in the soil headspace and total petroleum hydrocarbon concentrations (measured in the laboratory) ranged from 15 to 58 parts per million. The 58 parts per million of total petroleum hydrocarbons was found in the southeast corner of the excavation. No volatile organic compounds were detected in the one soil sample analyzed in the laboratory for volatile organic compounds. One groundwater sample was collected from the excavation and analyzed in the laboratory for total petroleum

ABB Environmental Services, Inc.

EXECUTIVE SUMMARY

hydrocarbons only. A concentration of 22 milligrams per liter of total petroleum hydrocarbons was detected in this sample. Due to these results, ATEC lined the southeast corner of the excavation with polyethylene sheeting and backfilled the entire excavation with clean fill. Based on the results of the ATEC field screening, this underground storage tank removal was classified as a successful removal and no further soil removal or remediation was conducted.

To determine whether contamination had migrated laterally along the water table, 11 soil samples were collected at ten TerraProbe points around the excavation at SA 43K. The results of the field analyses indicated that no benzene, toluene, ethylbenzene, and xylene compounds or total petroleum hydrocarbons were present in the subsurface soil samples around the excavation.

One soil boring (43K-92-01X) was drilled to the water table to confirm the field screening results. No volatile organic compounds or total petroleum hydrocarbons were detected in the soil sample collected from the water table, and lead was present below established Fort Devens background concentrations.

On the basis of findings at Study Area 43K and the Preliminary Risk Evaluation, there is no evidence or reason to conclude that petroleum contamination due to the former underground storage tank has caused significant environmental contamination or poses a threat to human health. The decision has been made to remove Study Area 43K from further consideration in the Installation Restoration Program.

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**NO FURTHER ACTION DECISION UNDER CERCLA
STUDY AREA 43L
HISTORIC GAS STATION SITES
FORT DEVENS, MASSACHUSETTS**

Prepared for:

**U.S. Army Environmental Center
Aberdeen Proving Ground, Maryland
Contract DAAA15-91-0008**

Prepared by:

**ABB Environmental Services, Inc.
Portland, Maine
Project No. 7053-12**

JANUARY 1994

EXECUTIVE SUMMARY

Investigations of Study Area 43L (Historic Gas Station Site) at Fort Devens, Massachusetts have resulted in the decision that no further hazardous waste studies or remediation are required at this site. Study Area 43L was identified in the Federal Facilities Agreement between the U.S. Environmental Protection Agency and the U.S. Department of Defense as a potential site of contamination.

Fort Devens was placed on the National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act on December 21, 1989. In addition, under Public Law 101-510, the Defense Base Realignment and Closure Act of 1990, Fort Devens was selected for cessation of operations and closure. In accordance with these acts, numerous studies, including a Master Environmental Plan, an Enhanced Preliminary Assessment, and an underground storage tank removal program, have been conducted which address Study Area 43L.

An investigation of subsurface soil at Study Area 43L was conducted by Kurz Associates in 1989 as part of an underground storage tank removal program at Fort Devens. The three underground storage tanks were removed, and were observed to be in good condition. The headspace of nine soil samples from each excavation were screened for total volatile organic compounds with a photoionization detector. Concentrations ranged from 0.4 to 6.8 parts per million. Four composite soil samples were collected from the excavations for total petroleum hydrocarbon analysis. The concentrations ranged from 57 to 108 parts per million.

After assessing the distribution and migration potential of the contaminants at the station, it was concluded by Fort Devens personnel that groundwater was not being impacted and that current site conditions, at the time, posed no significant risk to potential receptors. Based on this assessment, the excavations were backfilled, and no additional investigation was conducted.

Based on the recommendations in the Kurz report, ABB Environmental Services, Inc. did not conduct a site investigation at SA 43L during the 1992 field program. Based on the results of the work by Kurz Associates, it does not appear that the past activities at SA 43L have impacted the soil quality in the vicinity of the former underground storage

ABB Environmental Services, Inc.

EXECUTIVE SUMMARY

tank locations. The decision has been made to remove Study Area 43L from further consideration in the Installation Restoration Program.

ABB Environmental Services, Inc.

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**NO FURTHER ACTION DECISION UNDER CERCLA
STUDY AREA 43M
HISTORIC GAS STATION SITES
FORT DEVENS, MASSACHUSETTS**

Prepared for:

**U.S. Army Environmental Center
Aberdeen Proving Ground, Maryland
Contract DAAA15-91-0008**

Prepared by:

**ABB Environmental Services, Inc.
Portland, Maine
Project No. 7053-12**

JANUARY 1994

EXECUTIVE SUMMARY

Investigations of Study Area 43M (Historic Gas Station Site) at Fort Devens, Massachusetts have resulted in the decision that no further hazardous waste studies or remediation are required at this site. Study Area 43M was identified in the Federal Facilities Agreement between the U.S. Environmental Protection Agency and the U.S. Department of Defense as a potential site of contamination.

Fort Devens was placed on the National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act on December 21, 1989. In addition, under Public Law 101-510, the Defense Base Realignment and Closure Act of 1990, Fort Devens was selected for cessation of operations and closure. In accordance with these acts, numerous studies, including a Master Environmental Plan, an Enhanced Preliminary Assessment, and an underground storage tank removal program, have been conducted which address Study Area 43M.

An investigation of subsurface soil at Study Area 43M was conducted by Kurz Associates in 1989 as part of an underground storage tank removal program at Fort Devens. Two USTs were removed, and were observed to be in good condition. The headspace of nine soil samples from each excavation were screened for total volatile organic compounds with a photoionization detector. Concentrations ranged from 1.0 to 7.4 parts per million. Four composite soil samples were collected from the excavations for total petroleum hydrocarbon analysis. The total petroleum hydrocarbon compound concentrations ranged from 73 to 101 parts per million.

After assessing the distribution and migration potential of the contaminants at Study Area 43M, it was concluded by Fort Devens personnel that groundwater was not being impacted by the concentration detected and that current site conditions pose no significant risk to potential receptors. Based on this assessment, the excavations were backfilled, and no additional investigation was conducted.

Based on the recommendations in the Kurz report, ABB Environmental Services, Inc. did not conduct a site investigation at SA 43M during the 1992 field program. Based on the results of the work by Kurz Associates, it does not appear that the past activities at SA 43M have impacted the soil quality in the vicinity of the former underground storage

EXECUTIVE SUMMARY

tank location. The decision has been made to remove Study Area 43M from further consideration in the Installation Restoration Program.

ABB Environmental Services, Inc.

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**NO FURTHER ACTION DECISION UNDER CERCLA
STUDY AREA 43P
HISTORIC GAS STATION SITES
FORT DEVENS, MASSACHUSETTS**

Prepared for:

U.S. Army Environmental Center
Aberdeen Proving Ground, Maryland
Contract DAAA15-91-0008

Prepared by:

ABB Environmental Services, Inc.
Portland, Maine
Project No. 7053-12

JANUARY 1994

EXECUTIVE SUMMARY

Investigations of Study Area 43P (Historic Gas Station Site) at Fort Devens, Massachusetts have resulted in the decision that no further hazardous waste studies or remediation are required at this site. Study Area 43P was identified in the Federal Facilities Agreement between the U.S. Environmental Protection Agency and the U.S. Department of Defense as a potential site of contamination.

Fort Devens was placed on the National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act on December 21, 1989. In addition, under Public Law 101-510, the Defense Base Realignment and Closure Act of 1990, Fort Devens was selected for cessation of operations and closure. In accordance with these acts, numerous studies, including a Master Environmental Plan, an Enhanced Preliminary Assessment, and a Site Investigation, have been conducted which address Study Area 43P.

Field investigation of Study Area 43P was initiated in 1992 in conjunction with the other 12 Groups 2, 7, and Historic Gas Stations Study Areas at Fort Devens. The Study Area 43P site investigation consisted of collecting subsurface soil samples, field analysis of those samples, and one soil boring.

Eleven TerraProbe points were advanced to refusal at each location and up to three subsurface soil samples per point (21 total) were collected for field analysis. The samples were analyzed for benzene, toluene, ethylbenzene, and xylenes and total petroleum hydrocarbons. Benzene, toluene, ethylbenzene, and xylenes were not detected in any of the samples, and total petroleum hydrocarbon compounds were detected in only one sample at 220 parts per million.

One soil boring was advanced to refusal, apparently bedrock, and two subsurface soil samples were collected for laboratory analysis. The samples were analyzed for volatile organic compounds, total petroleum hydrocarbons, and lead. No volatile organic compounds or total petroleum hydrocarbon compounds were detected, and lead was present below the established Fort Devens background concentration.

The water table was not reached in any of the TerraProbe points or the soil boring.

ABB Environmental Services, Inc.

EXECUTIVE SUMMARY

On the basis of findings at Study Area 43P and the Preliminary Risk Evaluation, there is no evidence or reason to conclude that petroleum contamination due to the former underground storage tank has caused significant environmental contamination or poses a threat to human health. The decision has been made to remove Study Area 43P from further consideration in the Installation Restoration Program.

ABB Environmental Services, Inc.

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**NO FURTHER ACTION DECISION UNDER CERCLA
STUDY AREA 43Q
HISTORIC GAS STATION SITES
FORT DEVENS, MASSACHUSETTS**

Prepared for:

U.S. Army Environmental Center
Aberdeen Proving Ground, Maryland
Contract DAAA15-91-0008

Prepared by:

ABB Environmental Services, Inc.
Portland, Maine
Project No. 7053-12

JANUARY 1994

EXECUTIVE SUMMARY

Investigations of Study Area 43Q (Historic Gas Station Site) at Fort Devens, Massachusetts have resulted in the decision that no further hazardous waste studies or remediation are required at this site. Study Area 43Q was identified in the Federal Facilities Agreement between the U.S. Environmental Protection Agency and the U.S. Department of Defense as a potential site of contamination.

Fort Devens was placed on the National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act on December 21, 1989. In addition, under Public Law 101-510, the Defense Base Realignment and Closure Act of 1990, Fort Devens was selected for cessation of operations and closure. In accordance with these acts, numerous studies, including a Master Environmental Plan, an Enhanced Preliminary Assessment, and a Site Investigation, have been conducted which address Study Area 43Q.

Field investigation of Study Area 43Q was initiated in 1992 in conjunction with the other 12 Groups 2, 7, and Historic Gas Stations Study Areas at Fort Devens. The Study Area 43Q site investigation consisted of a geophysical survey program, TerraProbe points to collect subsurface soil and soil gas samples, and field analysis of these soil and soil gas samples.

The surficial geophysical program consisted of metal detector, magnetometer, and ground penetrating radar surveys. This program was designed to determine if any abandoned underground storage tanks were present at this site. The results of the surficial geophysical surveys did not indicate the presence of an abandoned underground storage tank, but several small magnetic anomalies were detected in the reported area of the historic gas station. These anomalies were believed to be construction debris from the former pumphouse and pump island.

Three soil samples were collected, from two locations, because refusal was reached at approximately 9 feet. Refusal was encountered at each TerraProbe point prior to reaching the water table. The soil samples were analyzed in the field for benzene, toluene, ethylbenzene, and xylenes and total petroleum hydrocarbons. No benzene, toluene, ethylbenzene, and xylenes or total petroleum hydrocarbons were detected in any of the soil samples collected. Because each of the TerraProbe points met refusal before

ABB Environmental Services, Inc.

EXECUTIVE SUMMARY

encountering groundwater, 11 soil gas samples were collected between 8 and 9 feet from 10 points. These depths were estimated to be at or below the bottom of the former underground storage tank. Two soil gas samples were collected from TP-04. All of the soil gas samples were analyzed for benzene, toluene, ethylbenzene, and xylenes, only. No benzene, toluene, ethylbenzene, and xylenes compounds were detected in the soil gas samples collected from SA 43Q.

On the basis of findings at Study Area 43Q and the Preliminary Risk Evaluation, there is no evidence or reason to conclude that petroleum contamination due to the former underground storage tank has caused significant environmental contamination or poses a threat to human health. The decision has been made to remove Study Area 43Q from further consideration in the Installation Restoration Program.

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**NO FURTHER ACTION DECISION UNDER CERCLA
STUDY AREA 43R
HISTORIC GAS STATION SITES
FORT DEVENS, MASSACHUSETTS**

Prepared for:

**U.S. Army Environmental Center
Aberdeen Proving Ground, Maryland
Contract DAAA15-91-0008**

Prepared by:

**ABB Environmental Services, Inc.
Portland, Maine
Project No. 7053-12**

JANUARY 1994

EXECUTIVE SUMMARY

Investigations of Study Area 43R (Historic Gas Station Site) at Fort Devens, Massachusetts have resulted in the decision that no further hazardous waste studies or remediation are required at this site. Study Area 43R was identified in the Federal Facilities Agreement between the U.S. Environmental Protection Agency and the U.S. Department of Defense as a potential site of contamination.

Fort Devens was placed on the National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act on December 21, 1989. In addition, under Public Law 101-510, the Defense Base Realignment and Closure Act of 1990, Fort Devens was selected for cessation of operations and closure. In accordance with these acts, numerous studies, including a Master Environmental Plan, an Enhanced Preliminary Assessment, and a Site Investigation, have been conducted which address Study Area 43R.

Field investigation of Study Area 43R was initiated in 1992 in conjunction with the other 12 Groups 2, 7, and Historic Gas Stations Study Areas at Fort Devens. The Study Area 43R site investigation consisted of a geophysical survey program, TerraProbe points to collect subsurface soil and soil gas samples, field analysis of these soil and soil gas samples, and one soil boring to collect soil samples for laboratory analysis.

The geophysical surveys determined that one abandoned underground storage tank was present at the site. This tank was removed by ATEC Environmental Consultants on June 26, 1992. ATEC performed field screening for volatile organic compounds and total petroleum hydrocarbons on 10 soil samples collected from the walls of the excavation and two samples from the bottom of the excavation. ABB Environmental Services, Inc. collected one composite sample from the bottom of the excavation for off-site laboratory analysis. Based on the results of the field screening, the soils were deemed uncontaminated and the excavation was backfilled. However, based on the results of the composite sample collected and analyzed by ABB Environmental Services, Inc., an additional investigation was conducted to confirm the nature and distribution of fuel contamination detected in the bottom of the excavation.

A total of two soil samples were collected from two TerraProbe points, and one soil gas sample was collected from each of 10 TerraProbe points. The soil samples were

EXECUTIVE SUMMARY

analyzed in the field for benzene, toluene, ethylbenzene, and xylenes and total petroleum hydrocarbon compounds while the soil gas samples were analyzed for benzene, toluene, ethylbenzene, and xylenes, only. Benzene, toluene, ethylbenzene, xylenes, and total petroleum hydrocarbon compounds were not detected in the soil or soil gas samples, indicating that residual fuel contamination was not present outside of the former underground storage tank excavation.

One soil boring was drilled through the middle of the backfilled excavation. Two soil samples were collected from two depth intervals in the boring and analyzed for volatile organic compounds, total petroleum hydrocarbon compounds, and lead. No volatile organic compounds or total petroleum hydrocarbon compounds were detected in the subsurface soil samples. Lead concentrations were below the established Fort Devens background concentration.

On the basis of findings at Study Area 43R and the Preliminary Risk Evaluation, there is no evidence or reason to conclude that petroleum contamination due to the former underground storage tank has caused significant environmental contamination or poses a threat to human health. The decision has been made to remove Study Area 43R from further consideration in the Installation Restoration Program.

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**NO FURTHER ACTION DECISION
UNDER CERCLA**

**FORT DEVENS STUDY AREA 47
MOORE ARMY AIRFIELD
UNDERGROUND STORAGE TANK
DATA ITEM A009**

CONTRACT DAAA15-91-D-0008

**U.S. ARMY ENVIRONMENTAL CENTER
ABERDEEN PROVING GROUND, MARYLAND**

DECEMBER 1993

PRINTED ON RECYCLED PAPER

**NO FURTHER ACTION DECISION
UNDER CERCLA
STUDY AREA 47
MOORE ARMY AIRFIELD UNDERGROUND STORAGE TANK
FORT DEVENS, MASSACHUSETTS**

Prepared for:

U.S. Army Environmental Center
Aberdeen Proving Ground, Maryland
Contract DAAA15-91-D-0008

Prepared by:

ABB Environmental Services, Inc.
Wakefield, Massachusetts
Project No. 6917-11

DECEMBER 1993

EXECUTIVE SUMMARY

Investigations of Study Area 47 (Moore Army Airfield Underground Storage Tank) at Fort Devens Massachusetts have resulted in the decision that no further studies or remediation are required at this site. Study Area 47 was identified in the Federal Facilities Agreement between the U.S. Environmental Protection Agency and the U.S. Department of Defense as a potential site of contamination.

Fort Devens was placed on the National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act on 21 December 1989. In addition, under Public Law 101-510, the Defense Base Realignment and Closure Act of 1990, Fort Devens was selected for cessation of operations and closure. In accordance with these acts, numerous studies, including a Master Environmental Plan, an Enhanced Preliminary Assessment, and a Site Investigation have been conducted which address Study Area 47.

Field investigation of Study Area 47 was initiated in 1992 in conjunction with the other ten Group 3, 5 and 6 Study Areas at Fort Devens. Investigation at Study Area 47 entailed installing a monitoring well soil boring adjacent to the former underground storage tank excavation. Two other wells were installed as part of the group-wide water quality assessment at the airfield, but were near enough to and roughly downgradient of the former tank location to provide additional relevant data on impacts due to potential releases from that tank. To evaluate the potential impact of contaminant migration from Study Area 47 to the Nashua River, surface water and sediment samples were collected from the Nashua River.

Soil samples collected from the boring were analyzed for volatile organic compounds, lead, and total petroleum hydrocarbon compounds. No volatile organic compounds were detected and lead was detected at concentrations below background. The maximum total petroleum hydrocarbon compounds concentration was found to be 39.3 micrograms per gram from the boring placed adjacent to the tank. This concentration was lower than what would be expected for overtly contaminated soil. The investigation results indicate that fuel-related contamination may have occurred. However, the absence of petroleum hydrocarbons in deeper soils suggests that migration was not extensive in this study area.

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Bis(2-ethylhexyl)phthalate was detected in a groundwater sample collected from the monitoring well adjacent to the tank at concentrations exceeding the U.S. Environmental Protection Agency Region III drinking water guidelines, but is a suspected laboratory contaminant. Aluminum and iron concentrations at this location exceeded secondary Maximum Concentrations Limits in the second round of sampling only, but are well below calculated background concentrations. Based on these results, no observable contamination of groundwater has occurred as a result of potential releases associated with the former underground storage tank at Study Area 47.

The results of sediment sampling support the conclusion that contaminant migration via storm and surface water runoff from the airfield is a likely source of sediment contamination in the Nashua River; the specific source area for this contamination cannot be determined however, due to the large number of stormwater connections. Surface water and sediment in the Nashua River will be further investigated under Area Requiring Environmental Evaluation 70.

On the basis of the investigation and Preliminary Risk Evaluations performed for Study Area 47, there is no evidence to conclude that possible residual contamination due to releases from a former leaking underground tank have caused significant environmental contamination or poses a threat to human health or the environment.

NO FURTHER ACTION DECISION UNDER CERCLA

**FORT DEVENS STUDY AREA 58
BUILDINGS 2648 AND 2650 FUEL OIL SPILLS**

DATA ITEM A009

CONTRACT DAAA15-91-D-0008

**U.S. ARMY ENVIRONMENTAL CENTER
ABERDEEN PROVING GROUND, MARYLAND**

JANUARY 1994

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**NO FURTHER ACTION DECISION UNDER CERCLA
STUDY AREA 58
BUILDINGS 2648 AND 2650 FUEL OIL SPILLS
FORT DEVENS, MASSACHUSETTS**

Prepared for:

U.S. Army Environmental Center
Aberdeen Proving Ground, Maryland
Contract DAAA15-91-D-0008

Prepared by:

ABB Environmental Services, Inc.
Portland, Maine
Project No. 7053-12

JANUARY 1994

EXECUTIVE SUMMARY

Study Area 58 (one of 13 Groups 2, 7, and Historic Gas Stations Study Areas) was identified in the Federal Facilities Agreement between the U.S. Environmental Protection Agency and the U.S. Department of Defense as a potential site of contamination. Investigations of Study Area 58 (Buildings 2648 and 2650 Fuel Oil Spills) at Fort Devens, Massachusetts have resulted in the decision that no further hazardous waste studies or remediation are required at this site.

Fort Devens was placed on the National Priorities List under the Comprehensive Environmental Response, Compensation and Liability Act as amended by the Superfund Amendments and Reauthorization Act on December 21, 1989. In addition, under Public Law 101-510, the Defense Base Realignment and Closure Act of 1990, Fort Devens was selected for cessation of operations and closure. In accordance with these acts, numerous studies, including a Master Environmental Plan, an Enhanced Preliminary Assessment, and a Site Investigation, have been conducted which address Study Area 58.

Field investigation of Study Area 58 was initiated in 1992 in conjunction with the other 12 Groups 2, 7, and Historic Gas Stations Study Areas at Fort Devens. The Study Area 58 site investigation consisted of field analysis of soil samples collected from TerraProbe points to characterize the vertical and horizontal distribution of potential localized contaminants, the collection of subsurface soil samples for laboratory analysis and geologic classification, the installation of groundwater monitoring wells, and the collection of groundwater samples.

Nineteen subsurface soil samples were collected from 10 TerraProbe points located around the former heating oil underground storage tank excavation at Building 2648. One soil sample was collected from between 5 feet and 7 feet below ground surface from each TerraProbe point. Another soil sample was collected from nine of the 10 TerraProbe points at a depth of 9 feet or refusal (approximately 11 feet below ground surface). These samples were analyzed on-site for benzene, toluene, ethylbenzene, and xylenes and total petroleum hydrocarbons. Toluene, ethylbenzene, xylenes, and total petroleum hydrocarbons were detected in several samples indicating that some residual fuel contamination may be present outside of the former heating oil underground storage tank excavation.

Based on the results of the TerraProbe program, four soil borings (58M-92-01X through 58M-92-04X) were drilled (one upgradient and three downgradient) and four monitoring wells were installed. One soil sample was collected from each boring and analyzed for Project Analyte List volatile organic compounds, total petroleum hydrocarbons, total organic

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carbon, and grain size. No volatile organic compounds or total petroleum hydrocarbons were detected in any of the subsurface soil samples collected from Study Area 58 except for low concentrations of acetone in soil borings 58M-92-01X and 58M-29-04X. Acetone is considered a common laboratory contaminant and does not appear to be a site contaminant.

Monitoring well 58M-92-01X was installed as part of this investigation at a location presumed to be upgradient of the former underground storage tank excavation, and wells 58M-92-02X through 58M-92-04X were installed at presumed downgradient locations. Wells 58M-92-01X and 58M-92-02X were screened across the till/bedrock interface, and wells 58M-92-03X and 58M-92-04X were screened in till. Two rounds of groundwater samples were collected from each of the four monitoring wells. The first round was collected in September 1992 and the second round was collected in January 1993. All of the groundwater samples were submitted for laboratory analysis of Project Analyte List volatile organic compounds, total petroleum hydrocarbon compounds, selected inorganics, and anions and cations. Round Two groundwater samples were also analyzed for total suspended solids.

Volatile organic compounds were detected in the Round One groundwater sample collected from 58M-92-01X, only. No volatile organic compounds were detected in the other three groundwater samples collected. Round Two groundwater sampling results indicate that volatile organic compounds were not present in any of the samples collected. Total petroleum hydrocarbons were not detected in any of the groundwater samples collected from Study Area 58 during either round. Inorganic analyte (calcium, magnesium, and potassium) concentrations were above the calculated Fort Devens groundwater background concentrations in all wells. These elevated inorganic concentrations are not likely associated with leaking underground storage tanks.

On the basis of findings at Study Area 58 and Preliminary Risk Evaluation performed, there is no evidence or reason to conclude that petroleum contamination due to the former heating oil underground storage tanks has caused significant environmental contamination or poses a threat to human health. The decision has been made to remove Study Area 58 from further consideration in the Installation Restoration Program.

APPENDIX E

► CONCEPTUAL SITE MODEL DATA SUMMARIES ◀

[Provide conceptual site model data summaries prepared by installation. Coordinate with WDC graphics for preparation of model figures E-1 and E-2. The conceptual model summaries should consist of the site, zone, or OU map, one or more cross sections (located on the map), and a supporting data table that summarizes the following information; current site description and source characterization; background concentrations; pathway description(s); potential receptors; and contaminants, chemical standards, exceedances, and potential restoration goals.]

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Table 6-1. Future Land Use Risk Assessment for Development of Remedy Selections

Site ID	Risks	Contaminants			Current Use	Adjacent Uses	Anticipated Uses
		Groundwater	Soil	Surface Water/ Sediment			
SA 4 - Sanitary Landfill Incinerator (Shepley's Hill Landfill OU)	See SA 5	See SA 5	See SA 5	See SA 5	Located within Phase I of the sanitary landfill closure. Incinerator demolished and buried in landfill. Sand barren, old field, and grassland habitat.	See SA 5	See SA 5
SA 5 - Sanitary Landfill No. 1 (Shepley's Hill Landfill OU)	<u>Human Health:</u> 3×10^{-4} - 4×10^{-3} (Plow Shop Pond fish ingestion) 9×10^{-4} - 6×10^{-4} (Plow Shop Pond sediments) 4×10^{-4} - 8×10^{-3} (Residential use of groundwater); <u>Ecological:</u> Risk to aquatic and semi-aquatic receptors in Plow Shop Pond.	VOCs, inorganics	Surface Soils: None	Plow Shop Pond Sediments: SVOCs, pesticides, inorganics Plow Shop Pond Surface Water: VOCs, inorganics	Closed landfill containing household and military refuse. Capped with PVC membrane, soil and vegetation. Sand barren, old field, and grassland habitat.	Modeled groundwater flow is generally north past Plow Shop Pond and toward industrial, general residence and commercial zoned areas in Ayer.	Identified for open space and rail related uses after base closure.
SA 18 - Sanitary Landfill Asbestos Cell (Shepley's Hill Landfill OU)	Asbestos inhalation risks if cell is excavated	---	---	---	Cell located within section of landfill closed during Phase IV. Sand barren, old field, and grassland habitat.	---	See SA 5

Site ID	Risks	Contaminants			Current Use	Adjacent Uses	Anticipated Uses
		Groundwater	Soil	Surface Water/ Sediment			
SA 40 - Cold Spring Brook Landfill	<p><u>Human Health:</u> 1×10^{-4} - 6×10^{-4} (Cold Spring Brook Pond sediment/current land use) 2×10^{-3} - 1×10^{-4} (Cold Spring Brook Pond sediments/future land use) 5×10^{-3} - 8×10^{-4} (Residential use of groundwater/unfiltered) 1×10^{-4} - 9×10^{-4} (Cold Spring Brook Pond fish ingestion)</p> <p><u>Ecological:</u> Low levels of risk to aquatic receptors in adjacent portion of Cold Spring Brook Pond.</p>	Landfill not believed to be a source of inorganic groundwater contaminants.	Cover Soils: SVOCs, pesticides, inorganics	<p>Cold Spring Brook Pond Sediments: SVOCs, pesticides, inorganics</p> <p>Cold Spring Brook Pond Surface Water: Inorganics</p>	Abandoned landfill. Forest and old field habitat.	Groundwater generally discharges to Cold Spring Brook Pond. Groundwater at western edge of landfill may flow southwest toward Patton Well, Mirror Lake and area identified to become open space upon base closure.	Identified for open space after base closure.
SA 43A - Historic Gas Station Site; Central distribution facility for all historic gas stations	<p><u>Human Health PRE:</u> Human health risks are not significant and ecological risks are not relevant to the subsurface environment. However groundwater & saturated zone subsurface soil have been adversely impacted by historical activities.</p>	Fuel & solvent related VOCs	Fuel-related VOCs and TPHC at the water table	--	Used as the Petroleum, Oil and Lubricant (POL) Storage Yard to store fuel for military vehicles.	Site located near a groundwater divide. Locally, inferred groundwater flow is southwest toward areas identified for potential reuse likely to be zoned commercial or industrial.	Possible commercial/ industrial use.
SA 43G - Historic Gas Station Site; Historic service station expanded to include AAFES gas station	<p><u>Human Health PRE:</u> SA 43G has slightly impacted soil quality but contaminants have not migrated to groundwater; no ecological PRE performed since investigation focused on subsurface soils. AAFES gas station leaking gasoline and waste oil tanks have impacted groundwater and soil.</p>	Fuel-related contaminants from AAFES gas station tanks	Fuel-related VOCs and TPHC	--	SA 43G now inactive; vacant unpaved area located south of the installation's active gas station (AAFES station).	Locally, inferred groundwater flow is east towards Robbins Pond and areas identified to become open space and recreational property upon base closure.	Potentially to remain Department of Defense (DOD) Property (Army Reserve Enclave).

Site ID	Risks	Contaminants			Current Use	Adjacent Uses	Anticipated Uses
		Groundwater	Soil	Surface Water/ Sediment			
SA 43J - Historic Gas Station Site; Service Station	Human Health PRE: Station activity has impacted subsurface soils and groundwater creating potential risk to public health; no ecological PRE performed since investigation focused on subsurface soils.	Fuel-related VOCs and TPHC	Fuel-related VOCs and TPHC	—	Vehicle storage yard and maintenance facility (Bldg. T-2446) for a Special Forces Unit.	Locally, inferred groundwater flow may be southeast toward the golf course which will potentially become a prison complex upon base closure.	Potentially to remain DOD Property (Army Reserve Enclave).
SA 44 - Cannibalization Yard	Human Health: 4×10^{-4} - 5×10^{-3} (Construction worker/exposure to subsurface soils) 7×10^{-4} - 4×10^{-3} (Long-term worker/exposure to surface soils) Ecological: Lack of ecological exposure pathways.	None	Subsurface: TPHC Surface: cPAHs, TPHC	—	Temporary storage of vehicles awaiting dismantling for usable parts.	Inferred groundwater flow is northeast towards the Massachusetts National Guard, and Grove Pond. Site located within Zone II of Ayer Grove Pond wells. Surface drainage to Cold Spring Brook.	Possible commercial/ industrial use.
SA 52 - TDA Maintenance Yard	See SA 44	None	Subsurface: TPHC Surface: cPAHs, TPHC	---	Temporary storage of vehicles awaiting repairs.	See SA 44	See SA 44
SA 41 - Unauthorized Dumping Area (Site A)	Human Health and Ecological PREs: Potential human health risks (residential scenario) from surface soil exposure and groundwater ingestion. Potential ecological risks in adjacent pond/wetlands surface water & sediments.	VOCs and inorganics	Surface: PAHs and inorganics (human health) and inorganics (ecological)	Surface water & Sediments (New Cranberry Pond): inorganics and pesticides	Abandoned dumping area overgrown with trees and swampy vegetation.	Inferred groundwater flow may fluctuate seasonally away from and toward New Cranberry. Surface drainage is southeast toward New Cranberry Pond	To remain DOD property (Fort Devens South Post Training Area).

Table E-1. Conceptual Site Model Summary, AOCs 4, 5, and 18 (Shepley's Hill Landfill Sites), Chemical Standards, Exceedances and Potential Restoration Goals

Current Site ID (Past Site ID)	Site Description and Source Characterization	Background Concentrations	Pathway Description	Potential Receptors	Media/ Contaminant	ARAR	Source	Exceedance of ARAR	Risk-Based Restoration Goal ^m	Technology- Based Restoration Goal ^m
AOC 5 - Shepley's Hill Landfill (sanitary landfill No. 1)	Encompasses approximately 84 acres in the NE corner of the Main Post. Inferred groundwater flow is generally NE toward Plow Shop Pond and Ayer industrial, residential and commercial zoned areas. AOC 5, Shepley's Hill Landfill, was used for disposal of household and military refuse. In 1984, a closure plan was initiated in accordance with state regulations. Landfill capping was completed in 4 phases between 1986-1993. AOC 4, the landfill incinerator, was located in an area included in Phase I of the landfill closure. It was used to burn household refuse until the late 1940's. Incinerator ash was buried in the landfill. AOC 18, the asbestos cell, is located in the section of the landfill closed during Phase IV. An estimated 6.6 tons of asbestos construction debris were placed in the landfill between 1982-1985. A second cell was opened for disposal of small volumes of asbestos material until 1992.	Background for organics is below method detection limit aluminum: 6870 µg/l arsenic: 105 µg/l iron: 9100 µg/l manganese: 291 µg/l	Groundwater (ingestion): - 2 rounds/22 wells - 1 round/27 wells (confirming) - 1 round/5 new wells	Ingestion: residents Inhalation: residents Dermal: residents	Groundwater: aluminum arsenic iron manganese sodium other inorganic ^a 1,2-dichloroethane other trace VOCs ^b chloroethane	200 µg/l 50 µg/l 300 µg/l 50 µg/l various 5 µg/l various —	MA SMCL ¹ MA MCL ² MA GWQC ³ MA GWQC ³ (2),(3) SDWA/MCL ⁴ (3),(4) —	X X X X X —	— — — — — —	— — — — — —
AOCs 4 - Sanitary Landfill Incinerator			Plow Shop Pond Sediments (direct contact): - 28 sample locations (supplemental RI) - Fish sampling program	Ingestion: residents, aquatic and semi-aquatic receptors Dermal: residents, aquatic and semi-aquatic receptors	Sediments: (landfill related) arsenic barium iron manganese nickel	—	—	—	—	—
AOC 18 - Asbestos Cell	Based on the results of the RI, a Feasibility Study (FS) is recommended to evaluate alternatives to reduce potential human health risks associated with potential future exposure to groundwater. A separate FS is recommended to evaluate alternatives to reduce potential human health and ecological risks associated with contaminated fish and sediments in Plow Shop Pond.	—	Plow Shop Pond Surface Water (direct contact): - 13 sample locations (RI) - Fish sampling program (supplemental RI)	Ingestion: residents, aquatic and semi-aquatic receptors Dermal: residents, aquatic and semi-aquatic receptors	Surface Water: (landfill related) iron	—	—	—	—	—

Notes:

- (1) MA SMCL - State Secondary Maximum Contaminant Level; MA MCL - State Maximum Contaminant Level.
- (2) MA GWQC - State Groundwater Quality Standards
- (3) SDWA/MCL: Safe Drinking Water Act/Maximum Contaminant Level
- (4) MA ORSG: Office of Research and Standards Guidelines, MADEP
- (5) Antimony, barium, calcium, chromium, cobalt, copper, potassium, magnesium, nickel, vanadium, and zinc
- (6) 1,1-dichloroethane, 1,2-dichloroethane, 1,2-dichlorobenzene, and benzene
- (7) Cleanup criteria to be based on a risk assessment approach

Table E-1. (cont'd.) Conceptual Site Model Summary, AOC 40 (Cold Spring Brook Landfill), Chemical Standards Summary

Current Site ID (Past Site ID)	Site Description and Source Characterization	Background Concentrations	Pathway Description	Potential Receptors	Contaminants, Chemical Standards, Exceedances and Potential Restoration Goals					
					Media/ Contaminant	ARAR/ Standard ^(a)	Source	Exceedance of ARAR/ Standard ^(a)	Risk-Based Restoration Goal ^(b)	Technology- Based Restoration Goal ^(c)
AOC 40 - Cold Spring Brook Landfill	The Cold Spring Brook Landfill (AOC 40) occupies approximately 4 acres along the edge of Patton Road in the SE part of the Main Post.									
	The landfill extends approximately 800 feet along Patton Road and out into the former wetland along Cold Spring Brook, now mostly submerged beneath Cold Spring Brook Pond. The 3.5-acre pond was created by the raised inlet of the Patton Road culvert, between 1963 and 1972. The landfill is considered abandoned and was identified in 1987 when 14 55-gallon drums were discovered along the edge of Cold Spring Brook Pond. Other wastes at the landfill include concrete slabs, wire, storage tanks, rebar, timber, and debris.	Background for organics is below method detection limit arsenic: 10.5 µg/l manganese: 291 µg/l sodium: 10800 µg/l	Groundwater (ingestion): - 2 rounds/7 wells (RI) - 2 round/10 wells (confirming during supplemental RI)	<u>Ingestion:</u> residents <u>Inhalation:</u> residents <u>Dermal:</u> residents	Groundwater: arsenic bis(2-ethylhexyl)phthalate manganese sodium	(µg/l) 50 6 50 20	MCL MCL GWQC HA	X (max) X X	—	—
	Future residential exposure to groundwater at Cold Spring Brook Landfill presents potential human health risks above the USEPA points of departure. Risks associated with consumption of fish from Cold Spring Brook Pond and exposure to surface soil are within the USEPA target risk range. A Feasibility Study is recommended to evaluate alternatives to reduce potential human health risks associated with groundwater exposure and ecological risks associated with sediment hotspots in Cold Spring Brook Pond.	Background for organics is below method detection limit	Cold Spring Brook Sediments (direct contact): - 10 samples (RI) - 16 samples (supplemental RI)	<u>Direct Contact:</u> aquatic biota <u>Food Chain:</u> semiaquatic biota	Sediment ^(d) : anthracene DDD DDT arsenic barium lead manganese	(µg/g) 0.085 0.152 0.152 33 20 35 428	NOAA ^(e) USEPA SQC ^(f) USEPA SQC ^(g) NOAA ^(h) USEPA REG V ⁽ⁱ⁾ NOAA ^(j) NYSDEC ^(k)	X X X X X X X	—	—

Notes:

(1) Contaminants with concentrations exceeding available sediment Reference Toxicity Values under average exposure and Reasonable Maximum Exposure assumptions.

(2) FS proposed. ARARs not yet established. Values listed are method/detection limit for screening level analysis.

(3) FS proposed. Cleanup standards not yet established.

(4) NOAA - National Oceanic and Atmospheric Administration Sediment Threshold Values

(5) USEPA SQC - USEPA Inland Sediment Quality Criteria

(6) USEPA REG V - USEPA Region V Sediment Classification System

(7) NYSDEC - New York State Department of Environmental Conservation Sediment Criteria

(8) MCL - Maximum Contaminant Level; GWQC - Max. Groundwater Quality Standard; HA - USEPA Water Lifetime Health Advisories

Table E-1. (cont'd.) Conceptual Site Model Summary, SA 41 (Unauthorized Dumping Area), Chemical Standards Summary

Current Site ID (Past Site ID)	Site Description and Source Characterization	Background Concentrations	Pathway Description	Potential Receptors	Contaminants, Chemical Standards, Exceedances and Potential Restoration Goals	Exceedance of ARAR/Standards ^a	Risk-Based Restoration Goal ^b	Technology-Based Restoration Goal ^c
SA 41 - Unauthorized Dumping Area (Site A)	SA 41 is located on the South Post, approximately one-half mile west of the Still River Gate, on the north shore of New Cranberry Pond. Inferred local groundwater flow may fluctuate away from and towards New Cranberry Pond depending upon groundwater and surface water level in the pond. Surface drainage is generally SE toward New Cranberry Pond. This approximate 1 acre site is a dumping area believed to be used up to the 1950's for disposal of nonexplosive military and household debris. There is no record of its origin or use. Most of the visible debris at the time of the SI consisted of rusted beer cans and rusted vehicle fenders. No military debris was observed during the SI. Based on results of the SI and SSI an RI/FS is recommended to determine the source and distribution of the VOC groundwater contamination detected at the site.	Background for organics is below method detection limit	Groundwater (ingestion): - 2 rounds/1 well (SI) - 1 round/6 wells (SSI)	Ingestion: residents Inhalation: residents Dermal: residents	Groundwater ^d : 1,1,2,2-tetrachloroethane tetrachloroethylene trichloroethylene	X X X	-	-
		Background for organics is below method detection limit arsenic: 21 µg/g	Soil (direct contact): - 10 surface soil samples (SI) - 7 subsurface samples (SSI)	Ingestion: residents, site workers Dermal: residents, site workers	Soil ^e : benzo(a)anthracene benzo(a)pyrene benzo(b)fluoranthene chrysene indeno(1,2,3-c-d)pyrene PCB-1260 arsenic	X X X X X X X	-	-
		Background for organics is below method detection limit	Sediments from New Cranberry Pond and base of waste material (direct contact): - 2 samples (SI) - 5 samples (SSI)	Ingestion: wading and swimming Dermal: wading and swimming	Sediments ^f : PCB 1260 arsenic	X X	-	-
		Background for organics is below method detection limit	New Cranberry Pond Surface Water (direct contact): - 2 sample locations (SI) - 2 sample locations (SSI)	Ingestion: wading and swimming Dermal: wading and swimming	Surface Water ^g : aluminum iron lead manganese	X X X X	-	-

Notes:
 (1) Contaminants listed are those found to exceed MCL or Region III tap water concentrations. Groundwater filtered inorganic contaminants were either below detection limit or below the action level guideline. Groundwater inorganic contaminants detected in non-filtered samples are a result of suspended solids and not SA-derived contamination.
 (2) RI proposed. ARARs not yet established. Values listed are drinking water/soil standards/guidelines used for screening level analysis.
 (3) RI proposed. Cleanup standards not yet established.
 (4) Listed contaminants are those having concentrations exceeding soil guidelines.
 (5) MCL - Maximum Contaminant Level; Reg III - Region III tap water; MCP - Massachusetts Contingency Plan
 (6) USEPA lead action level

Table E-1 (cont'd). Conceptual Site Model Summary, SA 43A - Historic Gas Station (POL Yard), Chemical Standards Summary

Current Site ID (Past Site ID)	Site Description and Source Characterization	Background Concentrations	Pathway Description	Potential Receptors	Media/ Contaminant	ARAR	Source	Exceedance of ARAR	Risk-Based Restoration Goal ⁽¹⁾	Technology- Based Restoration Goal ⁽²⁾
SA 43A - Historic Gas Station Site at POL Yard	<p>SA 43A, the former central distribution facility for all of the historic gas stations is located in what is now the Petroleum, Oil, and Lubricant (POL) Storage Yard near the NE end of the Main Post. Locally, inferred groundwater flow is SW toward areas likely to be zoned commercial or industrial upon base closure.</p> <p>Gasoline was delivered to this facility by railroad and was off-loaded into above ground and underground storage tanks (ASTs and USTs). From there it was transported by truck to the individual historic gas stations.</p> <p>The facility consisted of a main gasoline station building, gasoline pumphouse and 7 storage tanks totaling 76,000 gallons (three 12,000 gallon USTs, two 12,000 gallon ASTs, and two 8,000 gallon ASTs). The 4 ASTs, located behind the gas station building, were removed between 1965 and 1972.</p> <p>The 3 USTs were located beneath the pumphouse and were used for gasoline storage, only, during the 1940's. Upon removal of the USTs and contaminated soils, confirmatory soil samples were collected. The USAEC initiated a field sampling program to investigate the nature of subsurface soil and groundwater contamination for the two areas at the site, Area 1 (gas station building and AST area) and Area 2 (pumphouse and UST area). Data collected indicates that groundwater quality and subsurface soils in the saturated zone have been adversely impacted by historical activities.</p>	<p>Background for organics is below method detection limit</p> <p>calcium: 14700 $\mu\text{g/l}$ sodium: 10800 $\mu\text{g/l}$</p>	<p>Groundwater (ingestion):</p> <p>- 1 round/3 wells</p>	<p>Ingestion: residents Inhalation: residents Dermal: residents</p>	<p>Groundwater⁽¹⁾: calcium sodium chloroform di-n-butylphthalate trichloroethene xylene</p>	<p>—⁽²⁾</p>	<p>—⁽²⁾</p>	<p>—⁽²⁾</p>	<p>—</p>	<p>—</p>
		<p>Background for organics is below method detection limit</p> <p>lead: 34.4 $\mu\text{g/l}$</p>	<p>Soil (direct contact):</p> <p>Area 1 - 24 soil samples Area 2 - 24 soil samples</p>	<p>Ingestion: residents, site workers Dermal: residents, site workers</p>	<p>Soils: (Areas 1 & 2) TPHC toluene ethylbenzene xylene (only Area 1) tetrachloroethylene lead</p>	<p>—⁽²⁾</p>	<p>—⁽²⁾</p>	<p>—⁽²⁾</p>	<p>—</p>	<p>—</p>

Notes:
(1) Groundwater concentrations listed are those found to exceed MCL or Region III tap water concentrations or those contaminants for which no guidelines currently exist. Inorganic contaminants listed are for filtered samples.
(2) R: proposed. ARARs not yet established.
(3) R: proposed. Cleanup standards not yet established.

Table E-1. (cont'd.) Conceptual Site Model Summary, SA 43G - Historic Gas Station (AAFES Gas Station Area), Chemical Standards Summary

Current Site ID (Past Site ID)	Site Description and Source Characterization	Background Concentrations	Pathway Description	Potential Receptors	Media/ Contaminant	ARAR/ Standard ^m	Source ^m	Exceedance of ARAR/ Standard ^m	Risk-Based Restoration Goal ⁿ	Technology- Based Restoration Goal ⁿ
SA 43G - Historic Gas Station Site and AAFES Gas Station	SA 43G is located SW behind Building 2009 and SW of the installation's active Army Air Force Exchange Service (AAFES) gas station in the central portion of the Main Post. Locally, inferred groundwater flow is east towards Robbins Pond and areas identified to become open space and recreational property upon base closure. The structures of the station consisted of a pump island and a small gasoline pumphouse. A 5,000 gallon UST was located between the gasoline pumphouse and pump island. The station was used during World War II as a vehicle motor pool to support military operations. The motor pool operations were discontinued during the late 1940's or early 1950's. Records are not available regarding decommissioning of this motor pool or removal of the associated tank.	Background for organics is below method detection limit Iron: 9100 µg/l magnesium: 3480 µg/l manganese: 291 µg/l sodium: 10800 µg/l	Groundwater (ingestion): - 1 round/7 wells (Nobis) - 1 round/8 wells (SSI)	Ingestion: residents Inhalation: residents Dermal: residents	Groundwater ^h : benzene ethylbenzene 1-methylnaphthalene naphthalene phenanthrene TPHC iron magnesium manganese sodium	(µg/l) 5 700 NA 1500 NA 1000 300 NA 50 28000	MCL MCL — Reg III — MCP SMCL — SMCL —	X X NA X NA X X NA X NA		
	AAFES gas station is comprised of the service station building (Building 2008), 3 active 10,000 gallon USTs, and associated pump islands. Five former gasoline USTs were removed in 1990. Although there was no visual indication of holes or leaks, soil samples collected from the excavation and during subsequent investigations revealed contaminated soil. A 500 gallon waste oil UST from behind Building 2008 was removed in 1992. Sampling from the excavation revealed VOC, SVOC and TPHC contamination. A SI and SSI were conducted to further assess the extent of contamination at SA 43G and AAFES. The site was subdivided into 3 areas: Area 1 - historic gas station SA 43G; Area 2 - AAFES active gasoline tank areas; and Area 3 - AAFES former waste oil UST. Based on sampling results, AAFES station leaking tanks have impacted groundwater and soil. A RI is recommended for Areas 2 and 3. No further action is recommended for Area 3.	Background for organics is below method detection limit	Soil (direct contact): - 11 geoprobe points w/ 7 soil samples and 10 gas samples (SI) - 1 boring to the groundwater table w/ 2 soil samples (SI) - 38 geoprobe points w/ 43 soil samples (SSI) - 7 borings w/ 20 soil samples (SSI)	Ingestion: residents, site workers Dermal: residents, site workers	Soils: TPHC xylene toluene ethylbenzene benzene	(mg/kg) 1680 800 90 80 10	Reg III MCP MCP MCP MCP	X		

Notes:
(1) Groundwater concentrations listed are those found to exceed MCL or Region III tap water concentrations or those concentrations for which no guidelines currently exist. Inorganic contaminants listed are for filtered samples.
(2) RI proposed. ARARs not yet established. Values listed are from water or soil monitoring/analyses and are used for screening level analysis.
(3) RI proposed. Cleanup standards not yet established.
(4) MCL - Maximum Contaminant Level; Reg III - Region III tap water; MCP - Maximum Contingency Plan

Table E-1. (cont'd.) Conceptual Site Model Summary, SA 43J - Historic Gas Station (Building T-2446 Area), Chemical Standards Summary

Current Site ID - (Part Site ID)	Site Descriptions and Source Characterization	Background Concentrations	Pathway Description	Potential Receptors	Contaminants, Chemical Standards, Exceedances and Potential Restoration Goals	Exceedance of ARAR/Standard ^(a)	Risk-Based Restoration Goal ^(b)	Technology-Based Restoration Goal ^(c)		
SA 43J - Historic Gas Station Site at Building T-2446	<p>SA 43J is located in the central portion of the Main Post in an area presently used as a vehicle storage yard and maintenance facility (Building T-2446) for a Special Forces Unit. Locally, inferred groundwater flow is SE toward the golf course which will potentially become a federal prison complex upon base closure.</p> <p>The structures of the station consisted of a pump island and a small gasoline pumphouse. A 5,000 gallon UST was located between the gasoline pumphouse and pump island. The station was used during World War II as a vehicle motor pool to support military operations. The motor pool operations were discontinued during the late 1940's or early 1950's. Records are not available regarding decommissioning of this motor pool or removal of the associated tank.</p>	<p>Background for organics is below method detection limit</p> <p>arsenic: 10.5 µg/l iron: 9100 µg/l magnesium: 3480 µg/l manganese: 291 µg/l sodium: 10800 µg/l</p>	<p>Groundwater (ingestion):</p> <ul style="list-style-type: none">- 1 round/3 wells (ATEC)- 1 round/7 wells	<p><u>Ingestion:</u> residents <u>Inhalation:</u> residents <u>Dermal:</u> residents</p>	<p>Media/ Contaminant</p> <p>Groundwater^(d): benzene ethylbenzene 2-methylnaphthalene phenanthrene toluene TPHC arsenic iron magnesium manganese sodium</p>	<p>(µg/l)</p> <p>5 700 NA NA 1000 1000 50 300 NA 50 28000</p>	<p>Source^(d)</p> <p>MCL MCL — — MCL MCP MCL SMCL — SMCL —</p>	<p>X X NA NA X X X X NA X X</p>	—	—
	<p>The USAEC initiated field investigations to determine if any abandoned UST(s) were present at the site and if any residual contamination was present in the subsurface soil. Field investigations revealed the presence of one 5,000 gallon UST which was removed in 1992 as part of the installations UST removal program. Additionally, a 1,000 gallon waste oil UST was removed in 1992. The waste oil tank had been used by the Special Forces Unit for operations at this vehicle maintenance facility. Based on sampling and analysis, it appears that contents of the abandoned gasoline UST and the former waste oil UST have contaminated the soil and groundwater at SA 43J.</p>	<p>Background for organics is below method detection limit</p>	<p>Soil (direct contact):</p> <ul style="list-style-type: none">- 9 geoprobe points w/ 9 soil samples (SI)- 1 boring to bedrock w/ 1 soil sample (SI)- 15 geoprobe points w/ 16 soil samples (SSI)- 3 borings (wells) w/ 5 samples (SSI)	<p><u>Ingestion:</u> residents, site workers <u>Dermal:</u> residents, site workers</p>	<p>Soils: TPHC benzene toluene ethylbenzene xylenes</p>	<p>(mg/kg)</p> <p>1680 10 90 80 800</p>	<p>Reg III MCP MCP MCP MCP</p>	<p>X</p>	—	—

Notes:
(1) Groundwater concentrations listed are those found to exceed MCL or Region III tap water concentrations or those contaminants for which no guidelines currently exist. Inorganic concentrations listed are for filtered samples.
(2) RI proposal. ADAs not yet established. Values listed are from water or soil standards/guidelines and are used for screening level analysis.
(3) RI proposal. Cleanup standards not yet established.
(4) MCL - Maximum Contaminant Level; Reg III - Region III tap water; MCP - Massachusetts Contingency Plan

Table E-1. (cont'd.) Conceptual Site Model Summary, AOCs 44 and 52 (Barnum Road Maintenance Yards), Chemical Standards, Exceedances and Potential Restoration Goals

Current Site ID (Past Site ID)	Site Description and Source Characterization	Background Concentrations	Pathway Description	Potential Receptors	Media/ Contaminant	ARAR	Source	Exceedance of ARAR	Risk-Based Restoration Goal	Technology- Based Restoration Goal
AOCs 44 & 52 - Barnum Road Maintenance Yards (SA 44 - Cannibalization Yard and SA 52 - TDA Maintenance Yard)	<p>AOCs 44 and 52 is an 8.8 acre site located northeast of Building 3713, on Barnum Road, on the Main Post.</p> <p>Inferred groundwater flow is NE towards the MA National Guard and Grove Pond. The AOCs are located within the Zone II of the Town of Ayer's Grove Pond wells.</p> <p>AOC 44 is an unpaved area where vehicles are stored before being dismantled for usable parts. AOC 52 is an unpaved maintenance yard where vehicles are stored while awaiting repairs. Because adjacent yards (RTS and K-Yards) have also had a history of vehicle storage, they were included with AOCs 44 and 52 (all yards combined as one site). Collectively these four yards are referred to as the Maintenance Yards.</p> <p>Gasoline, motor oils and other automotive fluids were likely released during vehicle dismantling operations in the Cannibalization Yard (AOC 44) or from leaks in vehicles awaiting repairs. Two individual releases in AOC 44, referred to as "hot spot areas", are associated with a reported release of 20 gallons of "mogas" (motor vehicle gas) in 1985 and soils associated with leakage from a 1,000-gallon underground storage tank which was removed in 1992. The Site Investigation (SI) and a supplemental SI assessed and detected environmental contamination in surface and subsurface soils (SVOCs, VOCs and inorganics). No source area groundwater contamination was identified during the SI or in subsequent monitoring. Health risks associated with a long-term worker exposure to surface soils were found to exceed the Superfund target risk range. The risk is primarily due to the presence of cPAHs.</p>	<p>Background for organics is below method detection limit</p>	<p>Soil (ingestion):</p> <ul style="list-style-type: none"> - 16 borings w/ 51 samples (SI) - 4 borings w/ 16 samples (SSI) 	<p>Ingestion: Long-term worker to surface soils.</p>	<p>Soil⁽¹⁾</p> <p>benzo(a)anthracene benzo(b)fluoranthene benzo(k)fluoranthene carbazole chrysene dibenz(a,h)anthracene indeno(1,2,3-cd)pyrene TPHC</p>	<p>—⁽²⁾</p>	<p>—⁽²⁾</p>	<p>—⁽²⁾</p>	<p>500 ppm⁽³⁾ (TPHC)</p> <p>— ppm⁽⁴⁾ cPAHs</p>	—

Notes:

(1) Contaminants listed have been identified as contributing to unacceptable health risk.

(2) There are no chemical-specific ARARs identified for AOCs 44 and 52. Cleanup objectives are based upon risk-based cleanup levels.

(3) 500 ppm cleanup level established for TPHC is based on guidance from the Massachusetts Contingency Plan (MCP) (310 CMR 40, Nov. 19, 1993) using MCP Method 1 and S-1 soil and GW-1 groundwater categories.

(4) The cleanup level for cPAHs is currently under investigation.

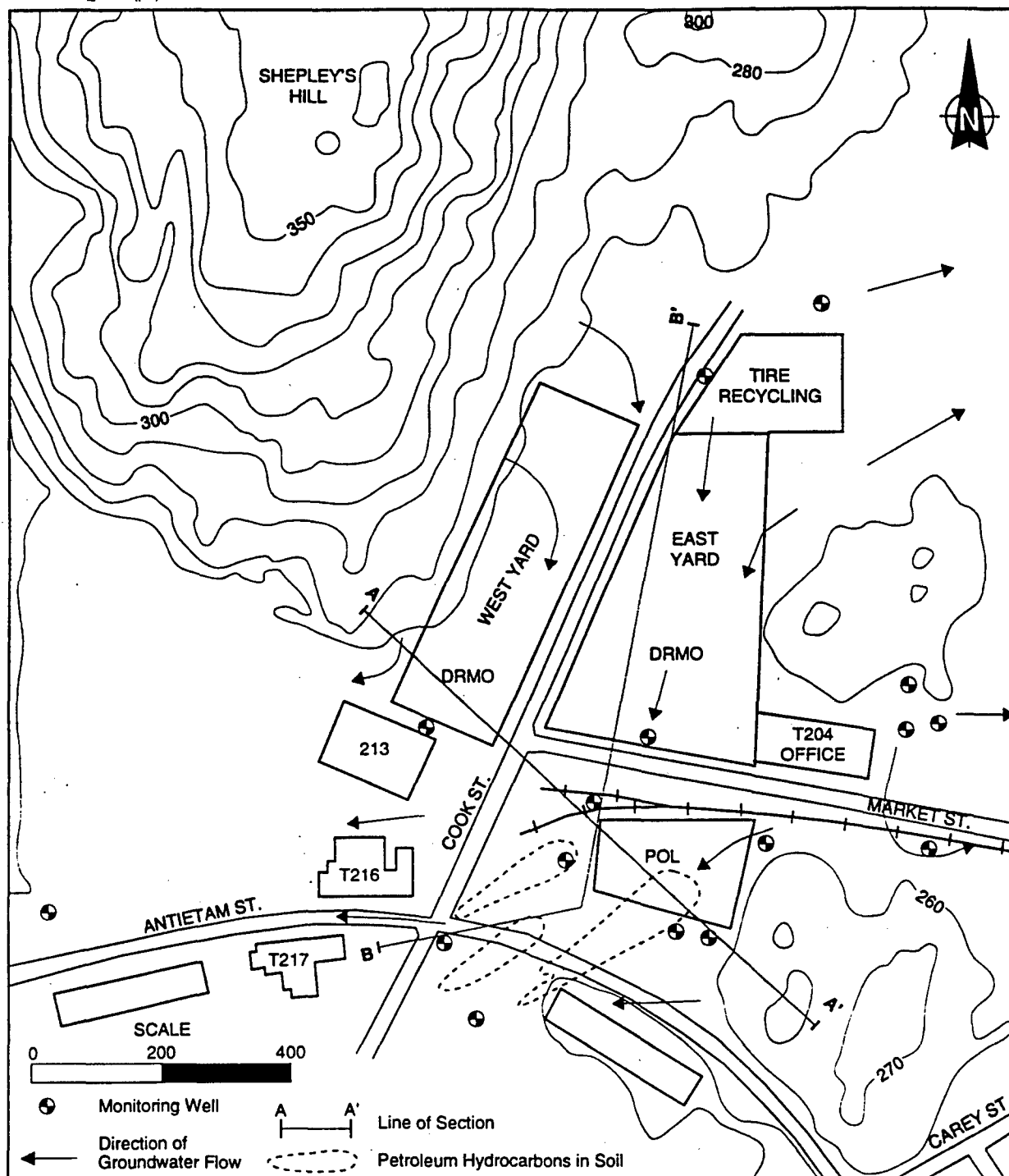
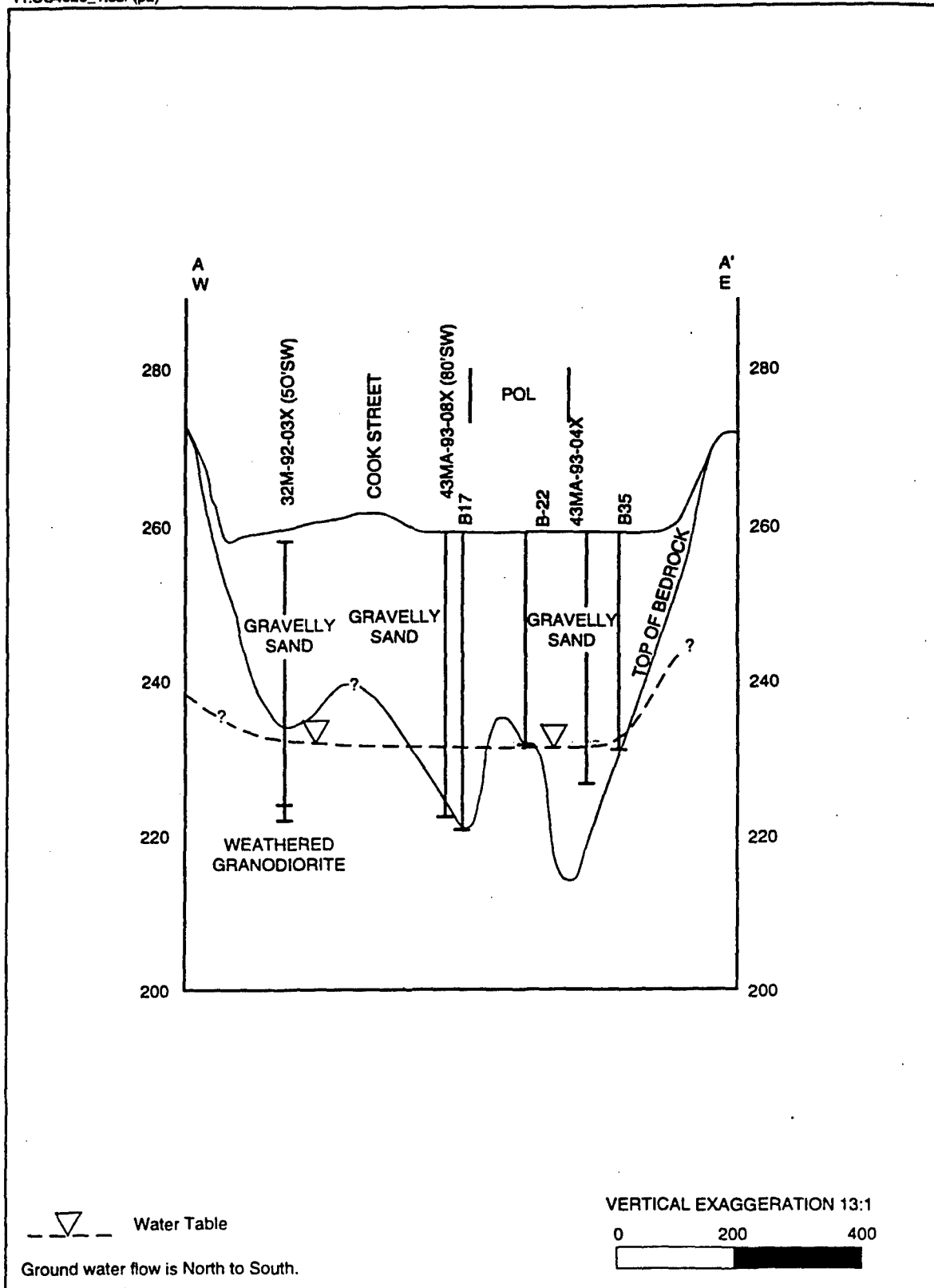
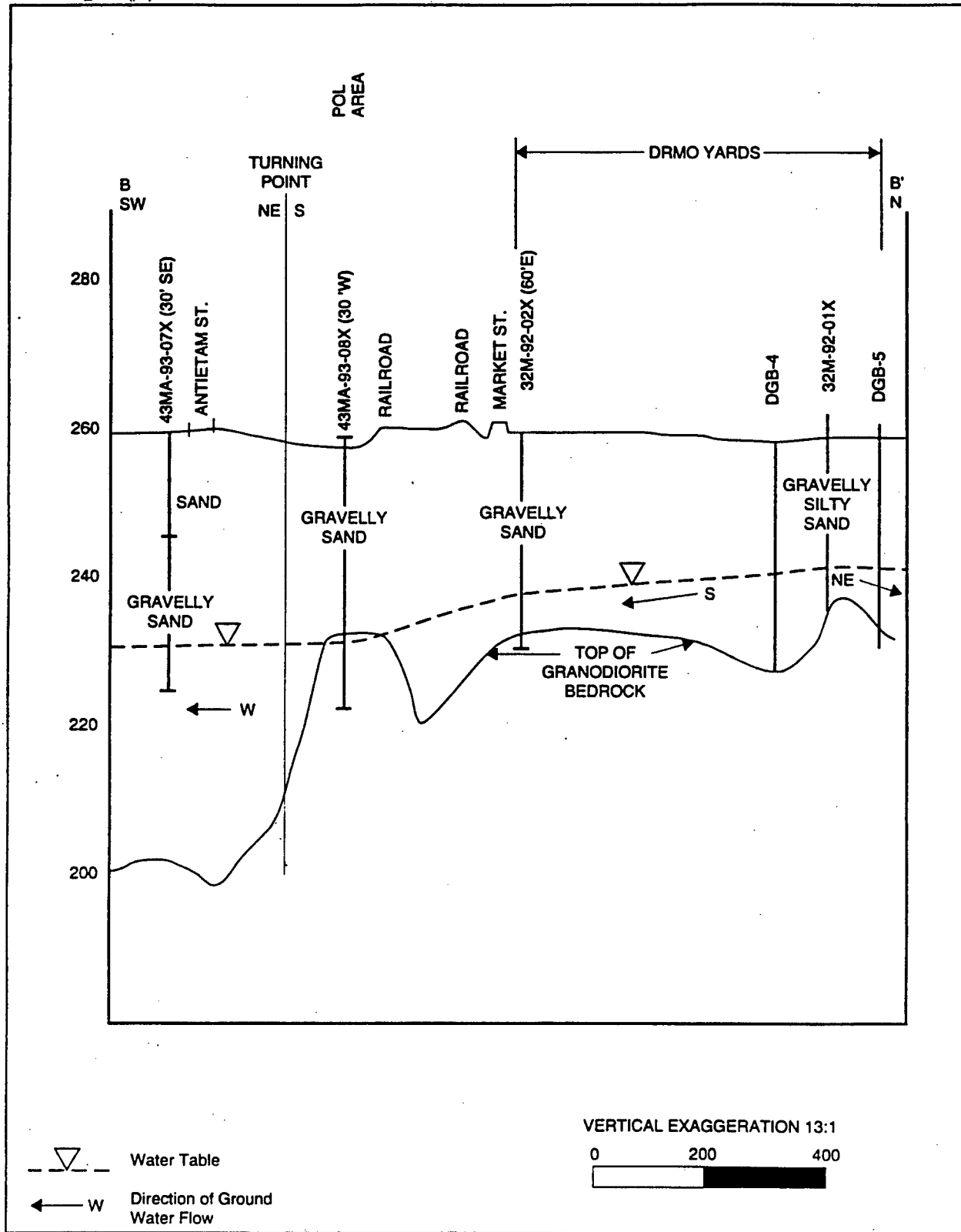


Figure E-1.4 CONCEPTUAL SITE MODEL DATA SUMMARY
POL/DRMO (AOC 43/32) MAP VIEW





**Figure E-2.4B CONCEPTUAL SITE MODEL DATA SUMMARY
POL/DRMO (AOC 43/32) CROSS SECTION B-B'**

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APPENDIX F

► OTHER ANCILLARY BCP MATERIALS ◀

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APPENDIX F

► OTHER ANCILLARY BCP MATERIALS ◀

Summary of the AREEs:

- **SA 4 - Sanitary Landfill Incinerator (Building 38).** The sanitary landfill incinerator was located near Cook Street within the area included in Phase I of the sanitary landfill closure. The site is located in former Building 38, which was built in 1941; the incinerator was operated until the late 1940s. The incinerator burned household debris generated on site; glass and incinerator ash were placed in a landfill next to the building. In September 1967, the incinerator (which was not used after the 1940s) was demolished and placed in the sanitary landfill. In 1976, the building foundation was also removed and landfilled on site.
- **SA 5 - Shepley's Hill Landfill (No. 1).** The sanitary landfill (Landfill No. 1) is in the northeastern portion of the main cantonment and encompasses about 84 acres. Landfill operations date as far back as 1917. A small portion of SA 5 is the site of a former railroad roundhouse. The roundhouse was used between 1900 and 1935. Because of the age of the facility, any contaminants would probably be the result of coal and steam-era wastes. The landfill at one time received about 6,500 ton/yr of household refuse, military refuse, and construction debris.
- **SA 10 - Landfill No. 6 Near Shirley Gate.** Landfill No. 6 (SA 10) was reported to be a trench that received debris from demolition of six warehouses (Buildings T-955 through T-960). The landfill's reported location is the flat area northwest of the enlisted housing near Shirley Gate along the west side of the main cantonment area and between Perimeter and Lowell roads. If the landfill was in this area, no evidence is available attesting to its former existence. At the time of the site visit (November 1988), an attempt was made to locate this site, but it could be recognized. The site is level and overgrown with grass.
- **SA 11 - Landfill No. 7 Near Lovell Street.** Landfill No. 7 (SA 11), located just east of Lovell Street in the main cantonment area, was active from 1975 to 1980. The site, about 2 acres in extent, was part of a small gully leading down to the Nashua River, about 200 feet distant. During the time the site was active, it received wood-frame hospital demolition debris. The landfill was covered and graded after closure. Between 1980 and 1982, Fort Devens used this area to dispose of tree limbs and other vegetation uprooted or felled during heavy storms. This material was placed on the surface, not buried. According to available information, no illegal dumping occurred at this site.

- ▶ **SA 13 - Landfill No. 9 Near Lake George Street.** Landfill No. 9 (SA 13) was used from 1965 to 1970 for the disposal of construction debris, tree trunks, stumps, and possibly waste oil. The site, about 1 acre in size, is located in the main cantonment area at Lake George Street and Hattonsville Road. The landfill's exact location is not apparent because it was covered when it was closed. The only evidence of a landfill was a miscellaneous mixture of wood, metal objects, cans, and other debris scattered about on the surface. The landfill is about 2,350 feet to the north-northwest of the Nashua River.

- ▶ **SA 16 - Landfill No. 12 - Main Post Near Shoppette.** SA 16, a small landfill about 1 acre in size, was operated for three weeks in 1985 to reduce the volume of material entering the sanitary landfill. It received construction debris generated at the installation. The landfill's location is reported to be in the main cantonment area southeast of the Shoppette and the intersection of Patton Road and Marne Street and west of the Boston Main Railroad tracks. During the site visit in November 1988, no surface evidence attested to the landfill's prior existence.

- ▶ **SA 17 - Landfill No. 13 - Mirror Lake.** The Mirror Lake area is a major wetland, with an associated spruce-peat bog on the northeastern side. The lake is a recreational area for fishing, boating, and swimming. At an unknown time, WWII-era grenades were placed in the lake. Some 200 of the grenades were discovered about 1970, when the water level of the lake was low. They were recovered and destroyed by the 14th Ordnance Disposal Detachment at Fort Devens.

- ▶ **SA 18 - Landfill No. 1 - Asbestos Cell.** The landfill contains a permitted asbestos cell (SA 18) that was used for disposal of asbestos construction debris from on-site activities. An estimated 6.6 tons of ACM were placed in the cell between March 1982 and November 1985. The cell is located in Section A of the Phase IV area. The cell was originally scheduled for capping in late 1989 or early 1990, and a new asbestos disposal location has been identified in the southeastern corner of the landfill. The cell was reportedly closed in late 1992.

- ▶ **SA 29 - Transformer Storage Area (Building 1438).** The transformer storage area is in the northeastern part of the main cantonment area, near DEH. The storage facility, known as Building 1438, was in use since 1980. About 33 square feet is bermed for temporary storage of PCB transformers that have been taken out of service.

- ▶ **SA 32 - DRMO Yard.** The DRMO Yard is in the northeastern portion of the main cantonment area near the sanitary landfill (SA 5). Records of operations are available as far back as 1964. Numerous items were stored before reuse or resale at the DRMO, including scrap metal, vehicles, batteries, tires, and used office equipment. No hazardous wastes were received or stored there. The northwest corner of the yard was dedicated to storage of used lead-acid batteries. All

battery acid was drained by the generator prior to arrival. Batteries were stacked on pallets, with the top of the battery turned sideways to avoid any accumulation of precipitation. About 40,000 lb of batteries passed through the DRMO each month. On the west end of the yard, vehicles were cut and disassembled to recover usable parts. This yard is also the accumulation point for used photographic solution. The recovery of scrap precious metals (silver and platinum) from the solution was subcontracted.

- ▶ **SA 33 - DEH Entomology Shop (Building 262).** Pesticides were stored in Building 262 which was designed to meet USAEHA and USEPA requirements. The location of this SA is in the main cantonment area. Completed in 1982, it was the newest pesticide storage area. On October 1, 1982, pesticides from other DEH storage areas (Buildings 245, 254, and 2728) were moved to Building 262, and all pesticide activities were consolidated at this location. Drains in the locker rooms of the building are connected to the sanitary sewer system. These drains were completely blocked off when chemicals are being mixed. Any spills were contained using clay adsorbent.
- ▶ **SA 34 - Former DEH Entomology Shop (Building 245).** Pesticides were formerly stored and mixed in Building 245 in the main cantonment area. This building was used for pesticide storage and control during the period from 1978 to 1982. The facility, which was used to store pesticides such as Diazanone, Baygone, Dursban, boric acid, and pyrythrum did not meet USEPA guidelines. Although pesticides were no longer handled within this building, it remained under entomology control. The building was then used to store cleaning solutions.
- ▶ **SA 35 - Former DEH Entomology Shop (Building 254).** Building 254 is located in the main cantonment area. It was used for pesticide storage and mixing during the period from 1978 to 1982. The inventory included pesticides such as Malathion, Diuron, VG Trol, and Weeder: the building did not meet USEPA guidelines. Although pesticides were no longer handled within this building, it remained under entomology control. It was then used to store some types of equipment and dry cleaning solvents.
- ▶ **SA 36 - Former DEH Entomology Shop (Building 2728).** Pesticides were formerly stored and mixed in Building 2728 in the main cantonment area. This building was used for pesticide storage during the period from 1968 to 1978. Pesticides and herbicides stored in Building 2728 included Diazonone, Baygone, Dursban, Boric Acid, Pyrythrum, Malathion, Diuron, VG Trol, and Weeder.
- ▶ **SA 37 - Golf Course Entomology Shop (Building 3622).** Pesticides were stored and mixed in Building 3622 until 1987. Building 3622 is located on the golf course in the main cantonment area. This building was used for pesticide storage and mixing between 1976 and 1987. Pesticides and fungicides such as Dursban, TGF, Daconil, and Antidrone Thinner Plus F were stored at this site.

- ▶ **SA 39 - Transformer Near Building 4250.** The locations of two buildings (4249 and 4250), formerly referred to as the old Sylvania buildings, are within the Oxbow National Wildlife Refuge, which was formerly part of the south post. The refuge was deeded by Fort Devens to the U.S. Department of Interior in 1973. According to available information, a spill area was discovered near Building 4250 in September 1984. The oil stain, which was adjacent to a transformer (found empty), had an estimated area of 288 square feet.
- ▶ **SA 40 - Cold Spring Brook Landfill.** The Cold Spring Brook Landfill (SA 40) is in the southeastern part of the main cantonment area near the Shoppette on Patton Road. It is considered an abandoned landfill and was discovered in November 1987, when fourteen 55-gallon drums were uncovered along Cold Spring Brook. The waste extended about 850 feet along the edge of the brook and involved area of 10 to 20 acres. Wastes included concrete slabs, wire, tanks, rebar, timber, and debris found at depths of between 10 and 25 feet. It is possible that the area was filled to raise the surface elevation near Patton Road. It is not known if the drums were placed in the landfill when it was first excavated or at a later date.
- ▶ **SA 43 - Historic Gas Station Sites.** A number of historic gas station sites are located at Fort Devens, but the only available documentation for these sites is a map (circa 1941) that shows the locations of 17 former gasoline dispensing stations and 1 central distribution station in the current main cantonment area. These were located in the central portion of the cantonment area. Collectively, these sites are referred to here as SA 43. The locations were inferred from present landmarks, such as the Nashua River and some of the roads. The legend of the 1941 map indicates that all of the underground storage tanks were 5,000 gallon with two different types of connections to the pumps. The central dispensing station appears to have been located near the current landfill and the DRMO. The length of time that they were in operation is not known.
- ▶ **SA 44 - Cannibalization Yard.** The Cannibalization Yard (SA 44) is an unpaved area (about 150 by 75 feet) east of Building 3713 where vehicles were stored before dismantlement for usable parts. The storage time for vehicles varied, depending on the demand for parts. According to site personnel, the topsoil was periodically removed. The most recent removal was in 1988, when the upper 2 feet of soil was removed and disposed of in an off-site disposal facility.
- ▶ **SA 50 - WWII Aircraft Fuel Points - MAAF.** The WWII aircraft fuel system (SA 50) is on the main cantonment area near Building 3618, the flight control tower for MAAF. It is estimated that there are four locations where aviation fueling activities occurred between 1941 and 1945. This SA is adjacent to the east-west runway and consists of piping, two groups of aircraft fuel tanks, fuel points, and truck fill stands. One group of fuel tanks (three 25,000-gallon tanks) is east of Building T-3803. Plans showing the details of these three tanks, a water separator pit, piping to two truck fill stands, and the truck fill stands date

back to August 1942. A second group of fuel tanks (two 25,000-gallon tanks) is east of Building 3818. Plans dating back to February 1941 show the details of these tanks and the associated piping for four aircraft fuel points.

- ▶ **SA 51 - Building 3421, O'Neil Building Spill Site.** The O'Neil building spill site (SA 51) is located just west of Lovell Street in the main cantonment area. This site is the location of the former Lovell Army Hospital. It was a training site for radio operators and used high frequency, diesel-powered generators to provide electricity. The generators were filled daily, and any water drained from the fuel tank. About 15 gallons of fuel was spilled onto the ground when a drain valve was left open. Soil removal activities found significant contamination, indicating this was not an isolated incident.
- ▶ **SA 52 - TDA Maintenance Yard.** The TDA Maintenance Yard (SA 52) is adjacent to SA 38 and SA 11 in the main cantonment area, in the northeast corner of Fort Devens along Barnum Road. It was an active storage area for vehicles with oil leaks that are awaiting repair. Reportedly, there are many small patches of soil visibly contaminated with motor oil or hydraulic fluid. The average size is 2-3 feet in diameter.
- ▶ **SA 57 - Building 3713 Fuel Oil Spill Site.** Building 3713 (SA 44) housed several industrial activities, including a repair shop for large Army vehicles such as tanks. In 1978, several thousand gallons of No. 4 fuel oil were spilled. This was the result of accidentally overfilling a 30,000-gallon underground storage tank. The fuel oil entered storm drains, which discharge to Cold Spring Brook. Immediately downstream of the point where fuel oil entered the brook, an earthen dam was constructed to prevent the oil from traveling any farther. According to available information, there were some cleanup activities. It is believed that some earth-type adsorbents were used to soak up the oil. There is no further available information regarding the cleanup of this spill.
- ▶ **SA 59 - Bridge 526.** Bridge 526 (AREE 59) is a structure carrying a two-lane roadway across Tail Race Brook, a small tributary of the Nashua River in the northwest corner of the Main Post for Fort Devens. In the late summer of 1990, a contractor began sandblasting and repainting Bridge 526. The contractor used a spend sandblast grit containment system during the surface preparation and drummed the contaminated waste. On 1 October 1990, rains and a possible release from Lake Shirley Dam caused the water under the bridge to rise to the point that it washed away the scaffolding and the grit containment system, thus depositing contaminated grit into the stream. Contaminated grit may have been deposited farther downstream as channel sediments (as opposed to stream bank sediments). These sediments may be remobilized and transported farther downstream during seasonal and storm event high water flows.
- ▶ **AREE 61 - Maintenance and Waste Accumulation Areas.** AREE 61 addresses all known past and present maintenance and waste accumulations areas (MWAA).

The first category of MWAA covered were satellite and 90 hazardous waste accumulation areas. The second category is all known past and present maintenance areas. The third category converted known locations with oil/water separators. The fourth category included known solid waste disposal areas. AREE 61 focused on sites not already listed as IRP SAs or portions of IRP SAs not investigated during the IRP study.

- ▶ **AREE 63 - USTs Previously Removed.** AREE 63 addresses all previously removed USTs at Fort Devens, with the exception of those already identified as IRP SAs and 14 USTs removed during 1991-1992 that had a high potential for requiring continued removal actions, which are being investigated by the New England Division, USACE. The 14 UST removal sites being investigated as potential Beyond Localized Release (BLR) sites are previous UST removals where the removal documentation indicated a high potential for residual contamination. These 14 UST removal sites have undergone field investigation and the data is currently being analyzed to provide recommendations for further action.
- ▶ **Phase I BRAC EE, AREE 66 - Transformers.** The AREE 66 portion of the Phase I BRAC EE consisted of a detailed review of all transformer maintenance and inspection records. During this review, locations where PCB containing transformers were found to be leaking were identified. Based upon the level of documentation, specific sites were identified for further confirmation sampling. Confirmation sampling was done and based upon the results, a recommendation for NFA or removal action were made. The AREE 66 study provides the basis for the installation-wide contaminant source identification and assessment for all potential releases from leaking PCB transformers.
- ▶ **Phase I BRAC EE, AREE 69 - Past Spill Sites.** The AREE 69 portion of the Phase I BRAC EE consisted of a detailed review of the installation spill reporting and response files. All records were reviewed and assessed to determine if remediation of the spill was adequate and documented. Site inspections were also performed. Based upon this review recommendations for NFA or further sampling to characterize the potential release (Part 2 of Phase I) were made. The AREE 69 portion of the BRAC EE serves as the basis for the installation-wide contaminant source identification and assessment for all potential releases from reported spills.
- ▶ **Phase II BRAC EE, AREE 70 - Storm Sewer System.** The AREE 70 study (Phase II of BRAC EE) consisted of a detailed review of construction diagrams for 55 storm sewer systems, route verification, and sampling at outfalls and intermediate locations. Approximately 80 total storm sewer systems exist on Fort Devens. The 55 systems studied under AREE 70 were selected based upon their complexity, area drained and potential for releases into the system. The purpose of the AREE 70 study was to use the storm sewer systems, which drain a large portion of the installation, to provide a base-wide assessment of unknown contaminant releases into the storm drain system. The result of the sampling were

analyzed to determine "abnormalities" which would indicate the release of contaminants into a storm drain system. The AREE 70 study is a highly effective means of installation-wide contaminant source identification and assessment, as the storm drains studied cover large portion of the installation land area, and releases would be identified through residual contamination in the storm sewer system.

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► PARTNERING AGREEMENT ◄

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PARTNERING AGREEMENT

We, the members of the U.S. Army Fort Devens Partnering Team, are dedicated to accomplishing environmental cleanup in a cost-effective and quality manner to ensure protection of public health and the environment, to support current activities and future property disposal and reuse.

The Partnering Team is committed to working together in a spirit of integrity, mutual trust, responsibility, understanding, cooperation and open communication.

Towards that end, we hereby agree to strive toward the following goals:

- ✓ To realign and close the Fort Devens installation on or before the Congressionally Mandated dates.
- ✓ To implement innovative ideas for the purpose of accelerating the disposal of properties.
- ✓ To facilitate the reuse of the Fort Devens' properties in order to revitalize the impacted surrounding communities.
- ✓ To provide methods to share information between all parties involved in the environmental cleanup process of Fort Devens.
- ✓ To utilize project management problem solving strategies for resolving problem issues that arise during the environmental cleanup process of Fort Devens.
- ✓ To work with the established chain of command within each organization involved with the environmental cleanup at Fort Devens.
- ✓ To maintain effective communication channels between every organization involved with the environmental cleanup at Fort Devens.
- ✓ To maintain the partnering agreement throughout the life of the Fort Devens Base Realignment and Closure Cleanup program.

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► **VEGETATION HABITAT TYPE** ◀

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